# THE CULTIVATOR.

THIRD] TO IMPROVE THE SOIL AND THE MIND. [SERIES.

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## The Cultivator & Country Gentleman.

### DISCUSSIONS AT THE N. Y. STATE FAIR.

*Tuesday Evening, Sept. 12.*

**Management of Pasture Lands.**

The discussion of the first evening was upon the subject, "*Ought Pastures for the Dairy to be kept permanently in Grass, or to be renewed by plowing and re-seeding?*" The meeting was well attended, the President, Hon. T. C. Peters, in the chair, who stated that a general interest was felt in these discussions. He asked every man who spoke to express his views and experience. It was intended to be a plain farmer's meeting, for the interchange of opinion, and the interests of all. The meeting was then opened by the reading of the following paper, by Mr. X. A. WILLARD of Little Falls:

I do not propose to occupy much time in the remarks I have to offer. There are many here, doubtless, who have had large experience in the treatment of pasture lands, and it is desirable to get their views on this question. It is a subject of great importance to the dairy interest. To know how to produce milk cheaply, and of the best quality, is the underlying stone of the dairyman's success.

The points to be determined, it seems to me, are these: What kind of pastures are best for the dairy? Are they those which have been long in grass, or are they those which have been recently plowed and re-seeded? Can pastures be kept productive when remaining long in grass, or, in beginning to fail, is it necessary to renew by plowing and re-seeding? and finally, what are the cheapest, as well as the best modes of obtaining quality and productiveness of pasturage?

In considering these questions it should be borne in mind that the subject has reference to pastures for the production of milk, or those adapted to the diary.

Soils vary in character, and when under the modifying influence of climate and location, exhibit a peculiar fitness for certain plants; thus we have those best adapted to the production of grain, grass, fruit, or for plants abounding in textile fiber.

The Creator, in his infinite wisdom, seems to have mapped out the earth in broad divisions, indicating by unmistakable signs, the line of agriculture to be pursued in each. The wheat and corn regions extend over an immense surface, because these cereals are largely demanded for man's sustenance.

The dairy region is comparatively small, with marked topographical features. The land generally is more uneven, being broken up in hills and valleys. It is provided with numerous springs and streams of living water, and located within the rain belts, where the moisture from frequent summer rains and the deep and long continued snows of winter operate to protect the roots of grasses, and secure a perfect growth of fresh and nutritious verdure.

You cannot profitably carry the dairy upon the extensive plains of the west and southwest. They lack water. Pastures become brown and dried up long before mid summer, nor will they hold the grasses of any approved kinds for any long time. We are not, therefore, to consider the treatment of all pasture lands alike, but of those that are particularly well adapted to grass, and which cover a considerable portion of the central counties known as the dairy region. Now what are we to do with pasture lands that begin to fail from over cropping or from other causes? Shall we plow them up and re-seed or shall we adopt some other mode of renovation? I know of pastures that have been in grass for sixty years and upwards, and to-day show no signs of failure. Wherever I have been through the dairy region I find these pastures,—and it is the universal testimony of those who have them that they are yielding better returns in milk than any recently re-seeded grounds. I have seen old pastures plowed and re-seeded and put in meadow when the annual crop for a few years was large, but when put back again in pasture gave poor returns and took years in obtaining a nice thick sod. This may not always be the case, but it is frequent, and I am inclined to think general.

It may be said that the fault lay in re-seeding,—that a greater variety of seed should have been sown, timothy, the clovers, orchard grass, blue grass, red top, &c. Our farmers generally, I believe seed mostly with timothy, clover and red top, using the ground at first for meadows, and afterwards for pastures. What

we want, (and it is that which usually obtains in old pasture) is a variety of grasses springing up in succession, and those that will bear cropping, so that pastures will afford a good fresh bite from May to Nov. Old grasses are generally filled with a varitey of plants that are adapted to the soil, and in plowing and taking off grain crops, and then re-seeding, the conditions or elements of fertility are somewhat changed, so that anticipated results are not always obtained. In 1855 I plowed up on old meadow, about 2 acres of which was yielding large crops of timothy and clover, but so situated in the field that the hay crop could not be got off in time. I took from these two acres the first year 180 bushels of corn, and the second year 100 bushels of barley, when the land was seeded down with timothy and clover. For two or three years it did not produce satisfactorily, though receiving the usual dressing of plaster, and I top dressed it with stable manure, perhaps 20 loads to the acre, but without getting the large crops of grass that I did before re-seeding. Some mineral element therefore I supposed to be wanting, perhaps potash and soda, and so I top-dressed with ashes and salt, and had no farther trouble. I have seen quite a number of old pastures that were yielding tolerably well, plowed with somewhat similar results. The land would bear abundant crops of grain, but grass failed to be enduring, or was less nutritious, and hence frequent plowings and re-seedings were resorted to. I visited Mr. Butler's farm near New-Hartford, last year. He buys cattle and fattens them for the market, and he said to me that he had never been able to fatten stock with that facility from grass raised on newly seeded grounds as on that of those put down many years ago, or from pastures that had never been broken at all. Many others make similar statements.

I shall not dispute the point that we can doctor up our lands to produce any desired crop, but to do so may be expensive, and will often require more science and skill than are common in the country. When nature furnishes the condition for producing grasses that give the best result in milk, and when these grasses become firmly established in the soil, are we not pursuing a suicidal policy in destroying them by over-cropping, or by sowing weeds to smother and crowd them from the soil, under the impression that our pastures can at any time be renewed by plowing and reseeding?

Would it not be better and cheaper to exterminate weeds, and give our pastures some rest during the hot dry weather of July and August by feeding sowed corn, instead of cropping down to the roots, and allowing the sun to roast them out and destroy the plants? It is the weeds and over-cropping, and unprotected covering of pasture lands in hot weather, that are the fruitful sources of failure of grass in pastures. Generally on the soils of Herkimer, the old dairy pastures need little if any organic matter; the decay of roots and the droppings of stock supply that matter in abundance, and hence the application of mineral manures is all that is needed. These, of course, can be supplied cheaply, but if we are to plow up and take off grain crops, barn-yard manures must be used, which are more expensive.

Now it is very unprofitable for the dairyman to break up lands that are yielding, or that can be made to yield readily, good crops of grass. Our most successful dairymen believe that grain can be purchased from abroad cheaper than they can raise it. Grain-raising, therefore, with many is considered a matter of necessity rather than choice, but grass fails, and the lands are plowed and reseeded. This may be well enough for meadows, but is not so conveniently managed in pastures. If a part of your pasture lands begins to fail, and it is designed to plow and reseed, the land must be fenced, which is expensive, and often very inconvenient. But after getting it down to grass, cattle cannot be turned in until the plants become somewhat established, as they tread up the ground, pull out the grass by the roots, and by mid summer you have a barren field. Again, to plow pasture lands the herd must be reduced to meet the necessities of the case. This is also an objectionable feature, and one that is distasteful to the dairyman.

When grass *utterly fails*, plowing and reseeding doubtless should be resorted to; but generally pasture lands may be kept permanently in grass by giving them a little extra care and attention. If they begin to fail from over-cropping or neglect, a judicious course of top-dressing and sowing seed will generally be found preferable to the plow.

Usually on the black slate lands of Herkimer, plaster at the rate of 100 to 200 pounds to the acre, every alternate year, will keep pasture lands in good condition. I have found great benefit from the use of ashes, in connection with plaster, at the rate of two or three barrels per acre. Well decomposed horse manure, hauled out in the fall and broken up fine, and applied when cows are in the afterfeed, has produced good resnlts. My old pasture contains about 45 acres, and carries one year with another 30 head of cattle and span of horses. I have no doubt but that all pasture lands in the dairy region would be greatly benefitted by the application of bones, as this material is largely taken from the soil. Ashes are valuable in eradicating mosses and in furnishing food for grasses, and are worth at least 25 cents a bushel for most of our grass lands. Lime is of great service to some soils. Six years ago I limed an old sidehill meadow, mossed over and not producing. It was applied at the rate of 40 bushels per acre, and the annual crop of grass ever since has been good.

I am inclined to think that good old pastures produce a better quality of milk than those recently re-seeded, and that it would be cheaper and better to renovate by top-dressing than to plow and re-seed. The trouble with recently reseeded pastures is the grass early in the season is apt to be rank, watery and more flashy than the thick fine herbage of old pastures. Considerable portions of it often get the start, and soon become woody, and are rejected by stock. A recently re-seeded pasture will not bear cropping like one that is old. The larger varieties of grasses are so rank as to crowd out the smaller and finer grasses, which are the most valuable for the production of milk. The feed in old pastures springs up earlier and lasts longer than on grounds recently re-seeded. White clover and June or blue grass are valuable for producing milk; they are indigenous on our dairy soils, and are generally abundant in old pastures, where they

seem to thrive best. The character of food which a cow eats has a greater influence on the quality of milk she yields than many imagine.

During the drouth last season, when the cows began to eat the tufts and portions of pastures that had been rejected or left to grow up high and rank, the quality of milk was so depreciated that it took from 12 to 13 pounds of milk, and in some instances more, to make one of cheese. You may, perhaps, get more qulk of grass by plowing and re-seeding, and yet obtain poorer results in milk, than from the old thick sward that has been broken up. One great source of failure and decline of grass in old pastures, is overstocking. The lands are crowded to their utmost capacity year after year, and receiving scarcely any attention, must of course succumb at last. Again, weeds are allowed to go to seed and get possession of the soil, and where they thus overrun the grounds and destroy the grasses, doubtless the best course to be adopted is to plow and re-seed; but the true course is to pay attention to pasture lands in season, giving them an occasional top-dressing, scarrifying the surface in spring, and sowing here and there upon patches that are beginning to fail. As a top dressing, sawdust in which the liquid manures have been absorbed, applied in fall or spring, gives great vigor and growth to grasses. It can be spread over the surface in a finely divided state, and is in condition to be available to plants.

Road scrapings and composts of muck, earth and manures, applied in the fall and pulverized over the surface with a brush harrow, together with the use of ashes, plaster and lime, all of which are available to farmers, will be found of service in keeping up a permanent pasture. And it is believed by taking a few acres annually and treating them with manures, better results will be obtained at less cost than in plowing and re-seeding. I may remark that in the use of barnyard manures, fresh cow dung ought not to be used on pastures for the dairy, as it produces grass distasteful to dairy stock, and some claim it to be the cause of abortions.

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*Thursday Evening, Sept.* 14.

**The Culture of Tobacco.**

The subject for discussion at the Common Council rooms, Thursday evening, was, "The best method of Cultivating and Curing Tobacco; Lands best suited for its Culture; its Value as a Crop." Mr. GEDDES of Onondaga, presided. He introduced Mr. CHESTER MOSES of Onondaga, as the opening speaker, stating that he was the pioneer tobacco cultivator of Onondaga.

Mr. MOSES entered upon his subject by stating that there was little room for speculation on the subject of tobacco growing, and proceeded to give a detailed history of the raising of a single crop. He advised the sowing of seed as early as possible, so that the plants could be transplanted between the 15th and 25th of June; and that careful inspection be made daily for a week or two to prevent the cut-worn. The leaves of the plant, when transplanted, should be about the size of a half dollar. As soon as large enough, the plants should be carefully hoed and cleared of weeds, till the maturity of the crop in August. The cooler and more moderate the weather, the better is the plant, which usually obtains its growth in from 40 to 50 days. The plants should be carefully topped, which causes the plant to throw out suckers, and the suckering process is repeated as often as may be required. At maturity, the plant is cut near the root with a hatchet, and carefully cured, occupying from two to three months in the dry room. The leaves should be hung well apart to prevent pyle-burning and allow a free circulation of air. A constant circulation of the juices is kept up during this process. When the curing process is nearly finished, it is best to wait for a few damp days to moisten the leaves, which prepares the stalk for stripping. In sorting the leaves a careful distinction should always be made between the whole and perfect leaves and the imperfect ones. In packing, the best teacher is experience. Through both cultivation and packing the greatest care should be taken to avoid breaking the leaves. The lands best suited to tobacco are warm sandy loams, the sand predominating, and the land should be highly manured, as the rapid growth of the plant requires full sustenance. The soil should be well harrowed and prepared for the setting of plants. Many losses have been experienced by ignorance in regard to the treatment of soil and the kind used. Compact or well-rotted manure should be used. Guano is used with excellent success in Connecticut; and the strongest kinds are the best. He regarded from 1,500 to 2,000 pounds as a good crop. Last year the crop sold for from 20 to 25 cents. This year the crop is selling at an average of 10 cents.

Mr. SOLON ROBINSON here stated that a grower in Massachusetts raised 2,400 pounds to the acre, and sold it at 40 cents per pound last year.

Mr. M. resumed by explaining that the tobacco cultivators of Connecticut were so much better accustomed to raising the crop that they save a much larger per centage of the leaf, making a difference of from 33 to 50 per cent. in their favor.

Mr. ROBINSON stated in relation to the land used in growing tobacco, that it was a mistaken idea that the richest land should be adopted. He had seen one of the best crops ever raised, grown on some of the poorest land in Springfield, which had been, however, thoroughly manured. The land cost $7 per acre and gave 1,500 pounds at least to the acre, and brought from 30 to 40 cents per pound.

Mr. MOSES thought that Mr. ROBINSON'S experience was unparalleled, and he asked Mr. ROBINSON how much corn the same land would have grown.

Mr. ROBINSON replied about ten bushels.

Mr. GEDDES thought that the nature of the two crops was so widely dissimilar that Mr. ROBINSON'S opinion was easily accounted for.

In reply to a question, Mr. ROBINSON stated that the crop should be manured in the hill.

Mr. MOSES also stated that the ground should be thoroughly fed and taken care of, as one would take care of a favorite horse. In his first experience he had used ground without manuring, which had given a good crop of corn, but found it necessary to manure. He was not in favor of a rotation of crops, but would set ground apart for that especial purpose. He also reiterated that the sandy element should predominate in the soil where tobacco is grown. If too mucky the leaf is spongy and thick and of little value.

The question was asked whether the tobacco crop is as exhaustive as generally represented. A gentleman stated that on the flats near Ithaca, were farms where tobacco had been raised for twelve years without manuring, and still good crops were grown.

Mr. ROBINSON stated that in Florida the crop is raised for three successive years, and that the last year, the crop, although heavier, is far less valuable, not being of as good a flavor or quality.

Mr. MOSES was asked the cost of cultivating tobacco. He desired Mr. GEDDES to answer the query.

Mr. GEDDES stated that from experiments made he had learned that it required about twice as much labor as any other. He thought that the best tobacco was produced east of New-York State, and that it is better here than further west. He thought tobacco could be cultivated with excellent success and profit if the land is not too high above the level of the canal. A good piece of land should be used and large buildings erected; and although requiring considerable cost to commence with, it would realize $100 per acre. He had known the very best of tobacco to be grown in Onondaga; and thought it could not be distinguished from the best of Cuba tobacco, and related incidents illustrating the statement. The crop is full as certain as corn. It grows with wonderful rapidity and is of rare beauty. It is cut by the 15th of August, and then the crop is grown. A curious fact in relation to the plant is that it grows sometimes a foot after being hung up to dry.

Mr. ROBINSON considered it the best crop a sheep farmer could raise, their manure being of great value in its cultivation.

Mr. MOSES said that sheep are the only animals that seem to like the plant. He thought the plant did not exhaust the soils for grass and grains, but made it too strong. He knew one man who sowed rye in the fall, and plowed it in in the spring, and made it almost the sole manure. In this case, grain could be rotated. He considered the crop very profitable, and related his own experience, in which he had gradually extended his cultivation till he abandoned agriculture. It was more profitable than grain when he commenced raising it at five cents per pound. Mr. M. stated that highly-manured tobacco grounds were usually too strong for grain to follow as a rotative crop.

Mr. HAWLEY, of Onondaga, mentioned instances where a rotation of crops was practiced with success. He understood that it was conceded that one ton of tobacco consumed about 400 pounds of potash, but he had practiced rotation with success, raising 40 bushels of wheat to the acre after tobacco.

Mr. HARRIS, of the Genesee Farmer, considered that though a farm contiguous to a town where plenty of manure was available, might be profitably devoted to tobacco, yet it would not do to rely upon home manure in its cultivation. He asked Mr. GEDDES to state his opinion.

Mr. GEDDES explained that he considered if a man devoted a portion of his land to tobacco, he would raise more stock, and thus enrich his soil, provided he did not raise too much tobacco.

Mr. MOSES believed that in time the science of manuring would be reduced to such a system that it would not be necessary to over manure land for tobacco, which is now apparently necessary

Mr. ROBINSON wished to impress in the minds of farmers that a small crop of tobacco would benefit a farm and remunerate its owner well.

Mr. HILDRETH of Oneida, stated his *moral* views in relation to the raising of tobacco. He would not raise it more than he would raise the deadly Upas tree. He could not understand why agriculturists should advocate the cultivation of this plant.

Mr. ROBINSON thought the gentleman ought not to raise corn or rye for distilling purposes.

Mr. GEDDES considered that the discussion of the question morally was out of order.

Mr. HARRIS inquired if the tobacco raised in New-York was not generally used for wrappers.

Mr. MOSES said it was, and that a large portion of New-York tobacco was exported. He stated the peculiarities and differences of Connecticut and Cuban soils, the latter being of remarkable depth and richness, and so requiring less manure than our own lands.

## THE THISTLE WORM.

EDS. CO. GENT.—Reading Dr. Fitch's description of the prickly thistle worms, on page 191, brings vividly to mind the appearance of these creatures in a field of mine this summer.

I had occasion to cross the field about the 15th of June, and my way lay through a large patch of thistles. Never having before seen a worm upon a thistle, I was truly astonished at beholding our enemy itself attacked by so formidable a destroyer as it then met. The black and prickly or *feathered* worm, as I should call it, appeared really frightful in numbers and ugliness, and I was forced to go around rather than encounter them by passing through them. Every thistle was covered, and for the most part, was then divested of leaves, nothing but the bare stalk with the purple bud at the top remaining. I resolved to send Dr. Fitch some specimens, but did not do it, and the matter passed out of my mind. Some three weeks thereafter (say July 8th) I had occasion to pass over the same ground. The worms had almost entirely disappeared, but there were hovering over the thistles innumerable butterflies of the appearance described by Dr. Fitch in the article referred to. I never saw so many butterflies together before. They were dark colored, spotted, and beautiful in appearance and of large size.

After the lapse of some weeks (say the middle of August) I again met my black friends in an adjoining field devoted to winter squashes. The worms were busy upon some thistles which were growing here and there among the vines, but they did not touch the vines, nor yet the buckwheat growing near by.

All this was witnessed about half a mile from my house on the opposite side of the canal; at my house only one or two of the insects have been noticed this summer, and they probably would not have been had I not seen the more numerous show of them above. Should they by any fortunate freak of nature destroy the Canada Thistle they would be entitled to a public ovation. But unfortunately Dr. Fitch leaves us but little hope on that score.

*Utica, September*, 1865, JOHN G. WEBB.

Circumstances are the masters of a weak will and the ministers of a strong one.

## NEWBURGH AND VICINITY.

The Newburgh Bay Horticultural Society held its autmnal exhibition for three days commencing on the 27th ult. Although the crop of fruit was very small, through that region, the collection on the tables was a fine one. As elsewhere there was a large show of native grapes. The Iona and Israella attracted much attention. Many bunches of the Iona measured from 6 to 7 inches in length, and were well shouldered. The only objection to this variety, and that is a slight one, is the want of sufficient compactness in the bunch We saw but few of the Rogers' Hybrids. His No. 4 appears to be highly esteemed, and very large and showy bunches were exhibited—the berries appear to be about as large as those of the Union Village, and much better in quality. Nos. 4, 19, 41 and 44 are all large, black grapes, and doubtlsss when the best of these four is selected, it will be placed among those worthy of wide cultivation. Maxatawney does not appear to be of the highest quality, and was placed lower on the scale than the Rebecca, which was uniformly excellent. A new seedling was presented by S. UNDERHILL of Croton Point, a cross of the Isabella and Delaware, apparently possessing much merit, and one of many which he has raised. The collection of pears, although moderate, contained many fine specimens. The exhibition of vegetables was fine and extensive.

A ride of several miles in the evening, to the residence of SAMUEL HEATON (well known as a mineralogist, and who has a large collection of minerals,) presented the picturesque beauty for which this country is so remarkable. At CHARLES DOWNING'S, near Newburgh, we had an opportunity of seeing many of the new grapes in bearing. The Iona has grown and borne well, and is freer from mildew than many other sorts. The Israella has given much satisfaction. The compactness and fine appearance of the bunch and its early ripening, being quite as early as the Hartford Prolific, are likely to render this variety one of considerable value for marketing. The flavor is rather peculiar. CHARLES DOWNING thinks it very pleasant and agreeable, and would set out this variety largely for marketing. Allen's Hybrid has usually succeeded well with him, proved hardy, and he regards it as one of the finest flavored of all grapes. In common with most other sorts, it has mildewed considerably the present year. The Rebecca appears to grow and succeed better as the vines become older.

Many objects of interest were observed during a short visit to the residence of H. W. SARGENT, about half a mile below Fishkill Landing, on the banks of the river. We have never seen any place where the fine effects of light and shade were so beautifull produced as were here effected by the groupings of native and introduced trees, combined with a fine lawn and selected vistas of the river and mountains. In the Italian garden there is a Fan Palm 18 years of age, a Date Palm over 60 years, and an American Agave upwards of 80 years. The latter is purposely kept from flowering, as this would end the life of the plant. In the more remote part of the grounds are dense plantations of the natural trees, with an undergrowth of Rhododendrons, and other introduced shrubs. In one place is a bending walk about 12 feet wide, lined on both sides with a dense screen of Arbor Vitæ trees, which are carried on a light frame archway overhead, and will soon entirely exclude the sky. Iron and wooden hurdles are considerably used to separate pasture from lawn. The whole place occupies 23 acres, and although less extensive and expensive than some others, is inferior to none for the skill evinced in its design. A few other fine residences adjoining, impart much beauty to the whole neighborhood.

An afternoon was devoted to a ride up Fishkill Mountain, about two or three miles from the Landing. Carriages may reach within a fourth of a mile and a few hundred feet of the summit, although a part of the road is made very rough by projecting rocks in the track, in some places as large as a barrel. The rest of the ascent is by means of a footpath, winding among rocks and a thick growth of chestnut, scrub-oak, whortleberries, &c., densely shading the walk on both sides, until a broad, rocky plateau presents itself as the summit. The view from the top is magnificent. At our feet are the villages of Fishkill Landing, Mattewan, and Fishkill, and, across the river, the the city of Newburgh, with the houses and streets mapped out beneath us. The whole breadth of the Hudson was visible for upwards of thirty miles, far beyond Hyde Park in the north. On its banks may be plainly seen Marlborough, Milton, and Poughkeepsie, and some other towns. Nearly the whole of Duchess county is visible, and seems like an ocean of farms beneath us. Mountains mark the horizon on nearly every side. To the south are the many peaks of the Highlands, in some places near at hand, their huge forms darkened with forests; others blue in the distance, and beyond them the plains of Westchester county. Faint distant hills are seen in Connecticut. On the west, the long well-defined range of the Shawangunk mountains, extends from New Jersey to the neighborhood of Kingston; while faintly visible in the north, is the high, knotty outline of the Catskills. Three or four hours will accomplish the ascent and return, and the peak is well worthy of a visit.

J.

## Oil for Harness.

A practical farmer says that the best oil for harness is one quart of neats-foot oil, four ounces of beef tallow and three tablespoonfulls of lamp-black. In summer add four ounces of beeswax.

## MOCK TURTLE SOUP.

MESSRS. EDITORS—Having seen the inquiry for a recipe for mock turtle soup, here is one that makes a very palatable as well as very fashionable soup:

Take calf's head, or any sort of fresh meat that you prefer, and boil until very tender. Every cook can decide about the quantity of soup the occasion requires. Keep a sufficient liquor on the meat while boiling. Fifteen minutes before the soup is done, take bread crumbs rubbed as fine as can be—break into the crumbs two eggs, then mix the crumbs and eggs well together; put into the crumbs summer savory well pulverized, salt and pepper, and rub the seasoning well together, and make into the so-called force meat balls the size of a black walnut, and drop these into the soup. This is all the thickening the soup requires. The soup is to be taken up in a large tureen, with the meat in the center of the dish, and the force meat balls to be placed around the meat, in order to make the dish appear nicely garnished.

MRS. A. D.

## Fruit Grower's Meeting at Rochester.

The autumn meeting of the Fruit-Growers' Society of Western New-York, held on the 21st, afforded a strong indication of the rapidly increasing interest in fruit culture. The attendance was nearly double the usual number; the collection of fruits, notwithstanding the small crop this year, was never surpassed—the exhibition of native grapes was the best we have seen. Four seedlings or crosses of the Delaware, from Ellwanger & Barry, give high promise of value, two of them being earlier than Hartford Prolific, and much better in quality. One of these four seedlings, known as No. 19, appeared to be a sort of especial excellence. These exhibitors presented 35 varieties of the grape in all, including the more rare or noted sorts. They also exhibited 150 sorts of the pear, of remarkably fine growth, and most of them of the best varieties. Frost & Co. of Rochester, and J. M. Clarke of Naples, also presented fine specimens of grapes. Moore Brothers of Rochester, showed six new hybrids, among others one of considerable promise from the Diana and Hamburgh, known as Diana Hamburgh. C. W. Seelye presented 10 sorts of the grape, including finely ripened specimens of the Maxatawney.

### Mildew on the Grape.

The discussions opened with the subject of mildew of the grape—this malady, being so widely prevalent the present year, has excited a deep interest in grape growers. The prevailing opinion was, that young vines, kept well cultivated and pruned, and with the free admission of light and circulation of air, were much less affected than older vines more crowded in stem, foot, and foliage. More remote planting than generally adopted, was recommended by some cultivators. Dr. Morse of Lockport, who had recently visited Kelly's Island, stated that mildew and rot had destroyed three-fourths of the grapes at that place the present year; the crop had not succeeded nearly so well as in Western New-York, nor had ripened so early. Several members had observed the grape less affected on heavy or strong soils—a few others had discovered no difference. L. B. Langworthy of Rochester, stated as an exception to most observations, that an old vine, on the east side of a tight board fence, shielded from circulating air, was less mildewed than younger vines freely exposed. Grapes near the surface of the earth were but little affected. I. Crane of Lockport, and some others, had found a sprinkling of sulphur over the vines and leaves, to arrest the mildew, but it needed occasional renewal as often as the disease appeared. Some regarded salt as useful, and others thought they had derived advantage from the application of ashes to the soil. No very satisfactory result or conclusion was agreed on, the malady being new to nearly all present—except in the prevailing opinion that air, light, and vigorous growth, were important.

### Best Grapes for Shipping.

The best variety of grapes for packing and shipping engaged the attention of the meeting in the afternoon. I. Crane of Lockport gave negative information by naming the Concord as the poorest for shipping; cracking open of its own weight. Others had found that by drying them a day or two, and wilting very slightly, they carried well. The Isabella, Catawba and Hartford Prolific, was found to bear shipping without injury. Babcock of Lockport had found the Concord poor for transportation; the Delaware carried well to New-York and Chicago. Thick skinned grapes always carried best. Hartford Prolific had been found to ship well in all instances, if in small, or two or three pound boxes.

### Most Promising of the New Grapes,

came next. President Barry thought the Crevelling one of the best black grapes—hardy, early, and hangs well on the vine. The chief objection mentioned by others was its loose bunch. Bronson of Geneva had observed it to be always free from leaf blight. Some had found it to become more showy and compact as the vine becomes older — some as handsome and compact as the Concord. Experience with the Iona was anxiously called for—but unfortunately few had fruited it, except on a small scale. Bronson of Geneva had seen it bearing and it had proved as early as Delaware. He stated that C. Downing had found it to ripen before the Delaware. Dr. Beadle of St. Catharines, Canada West, said that a neighbor had fruited the Adirondack two years—that it ripened with Hartford Prolific. H. E. Hooker had seen it bearing at Rochester—that it bore 50 bunches the third year from setting out—a very heavy crop. It ripened with Hartford Prolific. C. W. Seelye had seen it ripe in Albany on the 18th of August. I. Crane of Lockport, had found No. 15 Rogers' Hybrid a very fine grape—Nos. 4, 19, and 39 were also fine grapes, the three last were black, No. 15, red. H. E. Hooker thought well of No. 4 and 15; ripening when Isabella would not. The few who had seen the Israella thought it would become a fine market grape—handsome, early, productive, and ripening quite as early or before Hartford Prolific. I. Crane had fruited the Lydia, and highly esteemed it. C. W. Seelye exhibited bunches of well ripened Maxatawney; he had found it hardy and thought highly of it.

### Distances for Vineyard Culture.

The drift of the discussion was in favor of allowing more room for vines than formerly. A member present who exhibited very fine specimens, set his plants 15 feet apart each way. He does not shorten the vines above the bunches, and allows a space of 18 inches between shoots.

A gentleman (whose name we did not hear,) said he had consulted the late N. Longworth, who strongly advised him to set 3 by 4 feet. He did so—setting out 25,000 vines at this distance. He soon found they were suffering from being crowded, and removed every alternate row, and every alternate plant in the row left. They did well for a time, but lately he has had to thin them again to ten or twelve feet.

On the subject of *side hills*, for vineyards, there were adverse views. Some preferred side hills, as more favorable to early ripening. Others had found a flat surface best, and yielding more grapes, probably on account of the increased facility for cultivation.

### Pears for Market—Results of the Present Year.

Bartlett had borne most profusely, but was much knotty and stung by the curculio. Duchesse Angouleme had generally succeeded well, and was highly commended by many. Louise Bonne of Jersey had not always succeeded well. Flemish Beauty had cracked considerably, and even Seckel had been scabby. The Howell had been smooth and fair. L. A.

Ward of Rochester, who had grown pears largely, said the Sheldon had been finer than ever before—he held up smooth specimens over three inches in diameter. They were always best on standards. The Diel had also succeeded uncommonly well; (with others it had cracked.) Anjou had proved fair and fine. With others, the Bosc had been excellent. The Virgalieu had cracked everywhere. A member stated that the knotty surface of Bartletts and other pears, was caused by small ants injuring the surface when the fruit was about the size of peas.

**Black Fungus on the Pear.**

The Virgalieu had generally failed from this cause. With a few it had succeeded well. The Flemish Beauty had been somewhat affected, and the Seckel to some degree. These were all the sorts named as being liable.

**Most Profitable Apples for Market this Year.**

The Rhode-Island, Baldwin, Roxbury Russet, and Twenty-Ounce, were mentioned as most uniformly productive the present year. E. Moody of Lockport, said a neighbor had three trees of the Baldwin that are now bearing at least ten bushels each, and that he had been offered five dollars a barrel for the whole—making $150 for the three trees,—tolerably profitable.

Before the close of the session the subject of the profits of fruit culture having been introduced, several instances of high profits were mentioned where the small fruits had received the best culture; among the rest, the strawberry plantation of J. Knox of Pittsburgh, was cited as an instance where over $12,000 was cleared from a single plantation last year. L. A. Ward said he had been much interested in hearing several statements in the meeting, among which one gentleman had stated that he had in one case cleared $900 in a year from an acre of grapes, and $1,200 in another case; yet he was so dissatisfied with this result, that he was about to make an important improvement to increase it. But even this was thrown in the shade by a gentleman (Moody of Lockport,) who had just shown that each Baldwin tree yielded this year fifty dollars each. If this was so, would it not be better to leave oil wells, gold mines, and even Western Union Telegraph companies, and go to raising fruit?

The President, in alluding to the failure in pear and other orchards, said he had examined a large number of orchards of dwarf and other pears, that had been most largely injured by fire-blight, and in every instance there were more than enough left to yield more from an acre than any other portion of their farms. And not one apple orchard in twenty, all through the country, now receives not even moderate attention; and until orchardists generally learn to give better culture, high profits cannot be expected.

## THE BRONZE TURKEY.

The domestic turkey can scarcely be said to be divided, like the common fowl, into distinct breeds, although there is considerable variation in color as well as in size; but no dwarf race exists, unless we except the small delicate-fleshed turkeys of Hempstead Plains, Long-Island, which are said to weigh, when dressed, not more than four or five pounds.

RICHARDSON says "there is a question whether the

THE BRONZE TURKEY.

domestic turkey is actually a second or distinct species, or merely a variety of the wild bird, owing to the diversity of its aspect to circumstances dependent on locality and consequent change of habits, combined with difference of climate and other important crosses, which we know in the case of other animals produce such remarkable effects."

BUFFON and others assert that "there is but one species of the turkey;" in this country we have several varieties, known by their color, viz., the black, the bronze, the pied, the slate, the ashy-gray, the white and the copper color.

The ashy gray and copper color are not particularly remarkable, but the black and bronze are decidedly superior in every respect, not only as regards greater hardiness and consequent greater facility of rearing, but as acquiring flesh more rapidly, and that being of the very best and primest quality. Those of this color, particularly the bronze, appear to be less far removed than the others from the original wild stock.* Fortunately, too, the black and bronze seem to be the favorite color of nature, and they are produced far more abundantly than those of any other hue.

As to the relative value of the ordinary varieties, it would be almost difficulty to offer an opinion; but those who suppose the white turkey to be the most robust and most easily fattened are decidedly mistaken, both in theory, as far as analogy may guide us, and in practice, where the certain test of experience has shown to the contrary. The pied and copper-colored varieties are generally undersized, and are among the most difficult of all to rear; but their flesh is certainly very delicate, and perhaps more so than that of any other kind—a circumstance, however, that may partly result from their far greater delicacy of constitution, and the consequent extra trouble devoted to their management. The finest and strongest birds are those of a bronze-black, resembling, as closely as possible, the original wild stock. These are not only reared the most easily, but are generally the largest and fatten the most rapidly. Some turkeys are of a coppery-tint, some are of a delicate fawn-color, others are pied or parti-colored, gray and white, and some few of a pure snow-white. All the latter are regarded as inferior to the black and bronze, their color indicating something like degeneracy of constitution, if not actual disease.

C. N. BEMENT.

* A few years ago, Rev. R. H. Avery, of Wampsville, N. Y., exhibited a cross of the wild and tame turkey, beyond competition; the largest weighed 33 pounds, and several others 30 pounds each. Their plumage almost vied with the peacock in brilliancy. These are supposed to be the origin of the now famous bronze turkeys; and such turkeys would ornament the palace of Queen Victoria.

## FRUIT DISCUSSION AT FORT WAYNE.

We are enabled to give to our readers a brief report of some of the interesting discussions at the evening meetings held during the recent State Fair at Fort Wayne, Indiana. After some opening general remarks by Dr. Warder of Cincinnati, the first evening was chiefly occupied with the subject of the diseases of the grape, with a view to adopt a list of such as were most generally found to be healthy. Among those who took part in the discussions were J. Knox of Pittsburgh; Sanford Howard of Michigan; Thomas Meehan of Philadelphia; W. Heaver and Dr. Warder of Cincinnati, J. W. Bailey of Plattsburgh, and others.

J. Knox looked upon the Concord as the most hardy and healthy of any valuable sort. He had found it not only to withstand the mildew of the leaf, which the present season has proved so injurious to native grapes throughout the country, but the thrips, which is becoming so common and destructive, makes no impression upon it. He also named Herbemont, Norton's Virginia and Creveling, as being very healthy sorts. He protects the Herbemont in winter, but regards it as one of the best varieties cultivated, and not receiving the attention its merits warrant. He exhibited beautiful bunches of this variety at the Fair grounds, being large, shouldered, compact, and measuring six to seven inches in length.

J. W. Bailey of Plattsburgh, had found the Adi ondac to exceed all others in healthy growth. The Concord had mildewed.

Thomas Meehan of Philadelphia, on being called upon for his experience with the Rebecca, stated that it had been thrown out by most cultivators, although the delicious quality of the fruit was admitted. The Maxatawney, which it somewhat resembles, proves to be a much better grower.

W. Heaver of Cincinnati, strongly recommended the Delaware. He had not found the Concord so valuable as it appeared to have been in other places.

Mortier of the same place, also highly commended the Delaware, but intended to plant the Concord for wine.

J. Knox had raised a new variety originated by S. Miller, and known as the Martha. He stated that it has all the vigor and hardiness of the Concord, with a white berry and better flavor.

Dr. Warder said that he had recently acted on the committee for the award of the Greeley prize—but they had failed to find a variety that had met all the requisitions. The quality or flavor of the Concord was regarded by some of the committee as too low. The Iona and Adirondac could not meet another requisition of general proved adaptedness, having been fruited as yet to a very limited extent.

It appeared from the discussions generally, that no variety had given more general satisfaction throughout the West, than the Concord. From the specimens exhibited of this sort, it evidently aquires a better flavor than those ripened at the East, yet higher quality is still desirable. Scarcely an instance was reported of its being affected with the mildew throughout this region, while at the East it has been more or less injured. Among other sorts that were named as generally healthy, were Hartford Prolific, Venango, Ives' Seedling, Norton and Creveling. Other well known sorts were more or less affected with mildew or disease.

The second evening was devoted to the discussion of apples. I. D. G. Nelson, (President of the Indiana Horticultural Society, and who presided at the meetings,) said that the apple crop in Northern Indiana had been medium in amount, and as prices had been very high, owing to scarcity elsewhere, orchardists had reaped large profits. The common price was one dollar per bushel on the tree. He had shipped the crop of his large orchards to New-York city. The best varieties being called for, the Ben Davis was named as one of the most valuable for the regions of the West—being always healthy, bearing uniformly, and being a handsome fine apple, it has been found eminently profitable. Like Rawles' Janet it is not adapted to the North, where the seasons are too short for its full development. The King of Tompkins County had been cultivated to a considerable extent, but generally ripened too early for winter keeping. It had in fact become an autumn variety. Some had found it nevertheless, to keep well into winter. The Wagener was highly spoken of, proving an early bearer, excellent in quality, and a good keeper. In the southern part of the State it keeps till mid-winter. President Nelson stated that he had found the Ben Davis, Belmont and Wagener, the three most profitable sorts. He planted most largely of the first named. The White Pippin, although not of very high quality, was named by several present as a good market variety. The Winesap has proved liable to rot at the core. It is too small in size, and has too many poor specimens. Smith's Cider, although deficient in fine flavor, is another sort that sells well in market. The tree proves quite hardy. The experience of culivators present was called for in relation to the Benoni—a diversity of opinion was expressed, some esteeming it highly, both for its handsome growth and excellent quality, while others regard it as too small in size. The Duchess of Oldenburgh, in the Northern part of the State, had been found one of the most valuable summer apples for market. Williams' Favorite had proved excellent with some. Early Harvest had lately become nearly useless, from black spots or scabs, but none had been found early enough to take its place—Red Astrachan, Trenton Early, and Kirkbridge White immediately succeeding it. The High-top Sweeting was generally regarded as the best early sweet apple.

The very general injury of the crop at the East by the apple-worm having been alluded to, information was called for as to its first appearance in the West. A cultivator on the Wabash river said he had seen it 20 years ago, but of late it had become more abundant and injurious. It was generally admitted that an effort must be made to check its increase, and nothing for this purpose appeared to promise better than the introduction into orchards of sheep and swine to pick up the infested fruit. A gentleman present said that he had adopted this mode to the great improvement of his crop. A member stated that by washing the bark with strong tobacco water, sheep would not touch it—thus showing at least their refined taste. Sanford Howard had known the application of fresh cattle manure, with the addition of water, applied with a

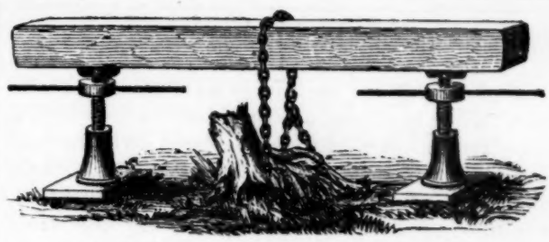
coarse brush, to prevent the attacks of sheep on the bark. There is much less danger in summer than in winter, and after the bark becomes rough, as on old trees, they do not touch it.

Inquiry was made for the best remedy against rabbits. Dr. Warder remarked that in the Western States, where corn was so cheap that it had been used as fuel, a good way had been to scatter it along nursery rows, where rabbits would feed on it, and leave the more valuable trees. Large trees might be protected by simply tying a sheet of paper (newspaper?) around the foot of the trunk; but a still easier mode was mentioned by several cultivators. It was to apply blood to the bark; rubbing a piece of liver from the butcher's, was found amply sufficient, the rabbits refusing to touch the bark while the least taint of blood remained, even after being thoroughly washed by rains.

## LABORERS' COTTAGES.

In each of the three published volumes of RURAL AFFAIRS we have given designs for laborers' cottages to be erected on farms for the occupancy of the hired men. After many years' trial we have found this mode of obtaining hired labor better in nearly every respect than hiring men and boarding them in the family. The occupant of the cottage has a wife who can do the work of preparing meals for him at very little cost, and for this reason we have always found that such men could board themselves at much less expense than their board could be hired elsewhere, or could be afforded in the farmer's family, where an increase of hired domestics becomes indispensable. Since the publication of those articles we have been gratified to learn that a large number of land-owners, who occupy their own farms, have adopted this mode for procuring the necessary force to work them. They thus procure steady men who are willing to continue for years in their employers' service; and the farmers themselves and their families are relieved from the constant burden of boarding, lodging, and affording room for a number of hired men. They will find another advantage. Farmers' daughters who are growing up will be less induced to marry lawyers or clergymen or doctors or merchants or village mechanics, for the sake of getting rid of this constant drudgery, and of finding a residence where they can enjoy at least some degree of privacy.

But in recommending this plan or system it must be borne in mind that it should be properly carried out in practice. Some, instead of building neat and comfortable houses, have furnished shabby or half-decayed buildings, or shanties, for their hired men—and then complain that the system does not work well—that they are not able to get the smart, active young men which may be had by giving them a seat at their own tables and the occupancy of their parlors. If a farmer wishes a man who is lazy and good-for-nothing, he will certainly be very successful in finding him if he has a comfortless and shabby-looking dwelling for him. On the other hand, handsome cottages, comfortable within and without, surrounded with shrubbery and having a small and good garden, will bring the right kind of men without any difficulty. This we know by ample experience.



## A CHEAP STUMP PULLER.

EDS. CO. GENT.—On page 144 current vol. are some inquiries about stump machines. I cannot answer all the questions, but I can describe *my* stump puller, which answers very well for me, and does not cost much.

I bought two screw jacks, and I had a stout log chain. These jacks have 1¼ feet lift, working in cast-iron pedestals. I procured a stout beam, 8 feet long, and about as heavy as two men would want to carry, and two pieces of plank for the jacks to stand on, together with some blocks, &c., and all was ready. I place the beam across the largest and stoutest root of the stump, one jack on each side, and as near the stump as I think the roots will allow, and resting on a piece of plank. The chain is passed around the root and the beam. One man at each jack will raise almost any stump to the full lift of the screw, which, in a majority of cases, is sufficient; if not, place a stud under each end of the beam; let down the jacks, and placing blocks under them, give the stump another lift. Two men will pull from thirty to fifty stumps a day, and the machine will cost fifteen or twenty dollars, while the jacks are useful for many purposes besides pulling stumps. There is no *patent* on this puller. H. M. ROGERS. *Kenosha, Wis.*

## MANAGEMENT OF PASTURE LANDS.

I have been much interested in the discussion of this subject at our last State Fair. Although not a Dairy Farmer, the question is none the less interesting to me. On our well drained grain soils, experience and observation has taught me that our land should not lie in grass to exceed three years, unless seeded *heavily* to timothy. When seeded down in the usual way to timothy and clover, or clover alone, the clover soon dies out, and its place is usually supplied by June grass or something worse; and when that gets well rooted in the soil, no *ordinary* summer fallow will exterminate it. Besides, instead of giving the land a rest, it actually impoverishes it more than a grain crop. When land is hopelessly wet, hilly, and unadapted to the raising of grain, I have no doubt that it would be best to keep it permanently in grass, provided it could be made to grow. But what stock like best, is *fresh* feed, and that can only be obtained by frequent *change* of pasture.

The grain-growing farmers of Western New-York believe in *systematic rotation*, believing that no other course is so likely to keep up the fertility of the soil, and clear it of foul weeds and grasses; and leaving to such as prefer them, the cultivation of "Meadow, Foxtail, and Quack grass," we are satisfied to eat the butter and cheese, and drink the milk produced from good clover and timothy. P. P. B.

## ROTATION OF CROPS—IV.

### Culture of Tobacco.

*Varieties.*—There are a large number of varieties, each having some one or more qualities for which it is cultivated. A kind which combines all of the most desirable qualities is preferable to those which have only one or two. The "Conn. Seed Leaf" is found to combine more desirable qualities than any other variety cultivated, hence I make its culture the subject of the following lines.

*Seed.*—Let a desirable number of the earliest and best plants go without topping, breaking off all branches below where the leaves are three inches broad; when the crop is harvested, strip the leaves from these and tie the stalk to a stake; cover them over when likely to freeze. When the capsules have turned a deep brown, the seed is ripe; cut the top off with a foot or two of the stalk, and hang away to dry where it will not be disturbed; when wanted for use, select the best and most central seed-pods, rub them out with the hands, and screen through a fine sieve.

*Seed-Bed.*—A warm sheltered location, good rich sandy loam, free from weeds or easily kept so, is the best. Plow or spade in the fall 10 or 12 inches deep, cover with tobacco stalks; as soon in spring as the frost is out and dry enough to work, clear, and plow with very narrow furrow-slice four or five inches deep, strewing guano or hen manure in the furrows as turned, liberally. Harrow, rake, and make the surface smooth, and the soil exceedingly fine; work in at the same time one bushel poudrette to the square rod. Sow broadcast one tablespoonful seed after mixing with sand; roll with a good field roller, and cover some brush over the bed, to remain till the plants attain the size of a three-cent piece. Keep the bed entirely free from weeds; the beds may be 10 to 12 feet wide, and a plank stretched across the bed, with blocks under the ends, will enable you to weed any part conveniently.

*Manure and Application.*—Stable and yard manure are to be mainly relied upon, aided by composting with peat, muck, etc. Tobacco grows quick, and needs large quantities of fertilizing material to feed on; twenty to twenty-five cords to the acre, well fined, spread and plowed under six or seven inches deep as early in spring as the ground will work well, will tell on this and future crops. When weeds start, harrow to destroy them and fine the soil; plow again about a week before transplanting, this time one or two inches deeper than at first; harrow and make level, going two or three times over; lay off the rows three feet ten inches apart by a marker; with the coverer follow the marks, hauling the soil into light ridges; mark the hills two feet apart with a light wheel arranged with shaft and handle to carry by hand, with blocks fastened on the outside rim two feet apart; hole out and drop in guano and plaster mixed, at the rate of 150 pounds of the former to 250 of the latter to the acre; cover two or three inches with fine soil and spat, leaving the spat a little depressed.

*Transplanting.*—It is essential to get the plants set as early as possible; from the 1st to the 15th of June is best. A moist or wet time is best for transplanting, but by watering the ground and the plants after setting, it may be successfully done even in a dry time, if done thoroughly. Good sized strong plants grow more readily than weaker ones. One who can set cabbage or lettuce plants can set tobacco, using care in pressing the soil up to the roots, and not pinching or covering the buds; set them as near as they stood in the bed, leaving the soil a little dishing around them.

*Cultivation.*—As soon as the plants take root begin to use the cultivator and hoe. Stir the ground slightly close to the plant at first; afterwards more thoroughly; let the cultivation be repeated as often as once in ten days, till the tobacco gets too large to go with the cultivator and horse; keep the weeds down with the hoe, and stir the soil as much as possible without injury to the plants.

*Worms.*—The cut worm takes the young plant soon after it is set, eating out the leaf-bud or the entire plant; hunt him out and kill him, and replace any missing plants. The green worm attacks the plants when the leaves get the size of a man's hand, some seasons, and continues till the crop is harvested unless picked off and destroyed. The eggs which produce the worm are laid, one in a place, on the under side of the leaf by a gray miller as large as a humming bird with orange colored spots on its body; for a drawing and full description of this, as well as of the worm in its various stages, see Dr. Harris' book on Insects.

*Topping.*—To throw the growth of the plant into that portion of the leaves which will give the best returns in profit, etc., the plants need topping; just where is a point demanding good judgment, and what is of importance, experience. The nearest we can come at it on paper is to say, top to where the leaves are about six inches wide when the plant has run up to blossom, leaving the plant about 2½ feet high.

*Succoring.*—Succors or branches push out from the axils of the leaves as soon as the top is broken off; these should be kept broken off to let the strength go into the leaves; the last succoring is done immediately previous to cutting.

*Harvesting.*—Tobacco should be cut as soon as ripe, which is known by a spotted appearance of the leaves; they also assume a harsh and brittle appearance and are easily broken when folded. A hay knife or backed saw is the best to cut with; lean the plant a little and cut underneath the leaves close to the ground; lay in regular rows to wilt so that it may be handled without breaking; then haul to the barn on a platform wagon. It should be looked to not to let it sunburn; five minutes in a clear hot sun will sometimes injure it irreparably. Turn and cart it under cover or shade when in danger.

*Buildings.*—These are built in size according to the quantity raised. The posts should be 15 feet long to hang three full tier, and a part tier on the purlin beams; ventilate in the roof, and by hanging every other board of the siding on hinges.

*Hanging.*—Twining on poles is the most expeditious; other ways are pegging, spearing and hanging on laths; procure sawed or rived laths from straight grained timber; taper them at one end to fit an iron socket which is pointed at the other end; the socket end is made to fit a lath ½x1¼ inches. The laths are four feet long; scantling are arranged in the building four feet apart from centers for the lath to rest on after being filled. A 1½ inch hole, bored a little slanting 3½

feet from the foot of a barn post, will serve to hold the lath while being filled. Take a plant in the right hand by the butt and the left clasping it about a foot down, place the stalk against the spear, and with a sudden push shove it on to the lath; four or five good sized plants will fill a lath; spear the load and then raise them into place; the upper tier can be hauled up with falls several laths at a time; put them far enough apart to give a good circulation of air.

*Stripping.*—When the juice is dried out from the leaf stem, it is cured and ready to strip. Watch a mild, moist time, and open the buildings to let the tobacco dampen; when sufficiently damp to handle without breaking, take it down and bulk it, butts out and tips in; cover it to prevent drying out. Strip one leaf at a time and make it into hanks of about one-third of a pound each, tie up neatly with a single leaf band, winding it close to the butt and tuck the end of the leaf into the hank. The tobacco is made into different sorts according to quality; very perfect is made into only two sorts; lugs and wrappers, less perfect three, first ground leaves, second imperfect, third and best for wrappers the perfect; each sort is neatly tied up and kept separate. Bulk and press it down as fast as stripped, in some suitable place to prevent drying out; here it can remain if protected from dampness or vermin till sold to the speculator, unless you desire to market it yourself, when it is pressed into cases 2½ feet square and 3½ feet long inside measure; such cases will hold 375 pounds, by packing it in, butts to the ends of the case, and pressing with a lever or press for the purpose. A mild or moist time when the tobacco is pliable, is the time for casing.

*South Windsor, Conn.* WM. H. WHITE.

## THE HOP APHIS---REMEDY PROPOSED.

MESSRS. EDITORS—I notice in your issue of Sept. 7, a short article from a correspondent, stating that buckwheat sown in hop-yards had proved a preventive for the ravages of the aphis. I am sorry to say that the same means have been tried in this section without success, and reasoning *a priori*, I think that the proposed plan would aggravate instead of cure the evil.

A late communication to your paper from Dr. FITCH, mentions that in England the "plant louse" passes the winter on a species of wild plum; but few or no trees of this kind are found here, and there seems to be good reason to suppose that the vermin need no special nutriment to keep them through the winter. Thus, for instance, I have been told by hop-growers that they have found them alive under the bark of the poles in the spring, and it is well known that they are generally the most destructive at the edges of the yard, which leads to the inference that they have taken shelter in the surrounding stubble since the preceding autumn. Reasoning from these facts, I would favor a course exactly the opposite of that proposed by your correspondent, and would suggest a plan which I think would prove at least a partial remedy, bearing in mind, however, that in a matter so little understood, an opinion formed on the observation of one year may be completely changed by the experience of the next.

In the first place I would collect after picking, all he weeds, grass, &c., left in the yard, and burn them with the vines, thus clearing the yard of refuse. I would then place the poles upon suitable frames so that they would lie about two feet from the ground, and kindle a slow fire underneath them (taking care not to burn them,) until they were heated so as to kill the vermin lodged in the crevices of the poles. A strip of ground around the yard, 15 or 20 feet wide, should then be cleared of weeds and stubble, burned over if possible, and deeply plowed. This, it would seem, would exterminate the insects so that none would appear the succeeding year unless coming in the winged state from other yards.

This is the most obvious way of attacking the pest, and although I have never heard of its being tried, it may perhaps have been tested in some hop-growing country where the vermin have been longer known than here, and if any of your readers are familiar with the experience of growers in England or Germany they should make it known. There is no subject of greater practical importance to a large section of country than this, and an interchange of views and suggestions, alike from theorists and practical cultivators, can hardly fail to tend toward a beneficial result.

*Maryland, Otsego Co., N. Y.* JAMES A. WHITNEY.

## Fleas on Dogs---How to Exterminate them.

In the CO. GENT. of the 14th inst. a correspondent asks for a remedy for fleas on dogs, and is referred to a recipe from the London Field, viz., a mixture of tar, lard and sulphur, well rubbed into the dog's coat. This may do but I think the remedy worse than the disease, I should certainly consider any one exceedingly verdant to apply tar to his dog's coat; grease is bad enough surely, but if that is to be used at all, let the dog be thoroughly rubbed in every part with common kerosene oil. I have known this to be used with perfect success. By keeping the dog chained a day or two, the unpleasant odor and effect of the oil disappears. But I consider the following remedy far superior to grease, tar or sulphur in any form. I have tried it myself and seen it tried repeatedly with uniform success.

Take ordinary soft soap, made in the old fashioned way from wood ashes, rub the dog thoroughly with it, first wetting his coat completely. Let the soap remain, say 10 minutes—wash him clean, and the fleas will have vanished—not left to return again, but have been killed "as dead as a mackerel." Their dead bodies will begin to appear almost immediately after the application of the soap. Doubtless a weak solution of potash would answer the same purpose, but always having the soap at hand, I have used that only. The soap and water not only eradicate the fleas, but perfectly cleanse the dog's skin and coat, and is calculated to improve his condition and appearance generally.

*Newton, N. J.* POINTER.

## EXTERMINATION OF HORSERADISH.

MESSRS. EDITORS—In the CO. GENT. of July 20th we learn that "Cocklearia" of Chicago, has failed in his method of eradicating horseradish from his garden, and in his "extremity" he appeals for aid. I am happy to inform Cochlearia that we once effectually destroyed horseradish in our garden by trenching the earth about two feet deep, and forking out every root and fibre. I know others who have adopted this mode with entire success. If thoroughly applied this is the most effectual and economical method of extermination that I know, notwithstanding that horseradish as well as rye grass may be effectually eradicated or destroyed by the slow and tedious process of cultivating the ground cleanly in growing root crops or cabbages, &c., as commended by some persons.

*Chicago, Aug. 18, 1865.* ISAAC T. WHITBECK.

## BUTTER FACTORIES.

A correspondent, writing from New Berlin, asks us how a butter factory for 200 cows should be constructed? Whether butter of good quality can be obtained from churning new milk? Whether the night's milk can be kept in cans and then churned in the morning with good results? What kind of churn is best? &c. &c.

We are acquainted with no factory receiving the milk of 200 cows, devoted exclusively to butter-making.

One of the chief requisites to a factory of this kind is good water and a spring-house.

It is of the utmost importance that everything about the premises be kept sweet and clean and free from anything that would be likely to affect the milk or butter with taints.

Opinions of good butter-makers differ in regard to the manner of obtaining the most as well as the best character of butter from a given quantity of milk. In a recent conversation with a butter-maker of large experience—and one who has for years operated in the trade, purchasing for the New-York markets—it was urged by him that the largest amount, as well as the best quality of butter is obtained by setting the milk in tall pails in the spring-house until it soured and begun to thicken—then churn milk and cream together.

The more general practice is to set the milk shallow in pans, skim off the cream and churn, feeding the sour milk to the pigs. We could write a long essay on butter-making, but that perhaps would not give the kind of information desired by our correspondent.

If the erection of a factory, receiving the milk from 200 cows, was contemplated for butter-making, it is a question whether the system adopted in Orange county would not be preferable.

Factories are established there in which both butter and cheese are manufactured. The buildings are constructed similar to factories for making cheese in Herkimer and Oneida, with the addition of a spring room and cellar, or room suitable for churning and working the butter. In the spring room the water is flowed into large tanks or vats. The milk, when received, is put into long tin coolers eight inches in diameter, and in height equal to that of the water in the vats, which may be from 14 to 18 inches. The milk of a day is allowed to stand in the water until the next morning, when it is taken out, the cream skimmed off, and returned to the same vessels and set in the water to sour, preparatory to churning. The skim-milk is placed in the milk vats and made into cheese. Good butter is manufactured by churning the cream either sweet or sour.

Mr. SLAUGHTER, who has a factory of this kind in Orange county, informs us that he has no trouble in making first quality of butter in this way, though he thinks a little better flavored butter is obtained when the cream is churned sweet. He says he has repeatedly made his own winter butter at the factory, and found no difficulty in keeping it over till June, sweet and good, a firm article, both from cream churned sour and sweet. The churns used at the factories are the common one-and-a-half barrel dash churns—and we may remark here that, notwithstanding a great many ingenious devices have been constructed for churning, the old dash churn seems to still hold its place as among the best, with butter manufacturers.

The skim-milk cheese from the Orange county factories are shipped to the West Indies and to warm climates, and command in the market a price nearly equal to the factory cheese of Oneida and Herkimer. Indeed the quotations are sometimes higher. Mr. SLAUGHTER writes us that the shipments of skim cheese for the week preceding Oct. 11, brought 18½c. per pound, while choice factory cheese at the Little Falls market at that time averaged no more than 17½ to 18 cents.

The main difference in the manufacture of the cheese from skim milk and pure milk, is that less heat and more salt is required for the skim cheese.

Mr. Slaughter furnishes us with the following statement of receipts and expenditures of his factory for eight months of last year, commencing with Agril 1st, as follows:

Quantity of milk from 380 cows for eight months—593,137 quarts, wine measure. From this was manufactured

| | |
|---|---|
| 73,100 pounds of cheese, which sold for, | $13,383.67 |
| 31,185 do. butter, | 14,554.58 |
| 17,549 quarts of milk sold, | 1,074 09 |
| 2,240 do. cream sold, | 516.40 |
| Sundries, | 40.06 |
| Hogs, | 1,646.83 |
| Total, | $31,215.03 |

EXPENDITURE.

| | | |
|---|---|---|
| For labor, | $1,195.00 | |
| Materials used, | 1,285.81 | |
| Cost of hogs and grain fed, | 719.43 | |
| | | $3,200.24 |
| Making a nett profit of, | | $28,014.79 |

From the above we arrive at the following: That the average number of quarts of milk per day from each cow for the eight months was about 6½, giving a nett profit of a little over 5 cents per quart, or in the neighborhood of $74 per cow.

It will be observed that the average quantity of milk daily received per cow is quite small. Doubtless only a portion of the milk from the several dairies was sent to the factory.

We have given all the facts and figures, to show that when there is comparatively but a small number of cows, butter factories may be established under this system with a reasonable expectation of large profits.

The manufacture of cheese in factories has now become so widely extended as to make butter scarce and high—at least butter of prime quality—and the introduction of a few butter factories in every county would be a great convenience, not only to the people at large but to dairymen. Many of our cheese dairymen depend on purchasing their butter, and are very much troubled at times in getting a supply. If they could go to a factory and obtain a prime quality at any time as wanted, they would regard it as a decided convenience.

Again, when butter-making is made a business, as at a factory of this description, skill and perfection of work would be sought, and we should have less of the miserable rancid grease so frequently sold under the *name* of butter. The facts presented here are worthy, it is believed, of careful consideration by our dairymen. We have no space to treat the matter farther now, but may refer to the subject again hereafter.

X. A. W.

Wood or Summer Duck---*Aix sponsa.* BOIE.

This is perhaps the handsomest duck in the world—not even excepting the famous Mandarin Duck of China. For brilliancy of coloring and exquisiteness of form it cannot be surpassed. It is called the "Wood Duck," from the fact of its breeding in trees, and the "Summer Duck" because it remains with us chiefly during the summer. It is to be found rarely on the seashore—preferring the ponds, creeks and woods of the interior.

The Wood Duck ranges over the whole of the continent of North America and appears to be very equally distributed. Cases are on record of it spending the winter as far north as Massachusetts, but as a general rule those that breed in such high latitudes move southward at the approach of winter.

The Summer Duck has been frequently domesticated and will breed while in that state. Instances of this are given by LATHAM, WILSON, AUDUBON and NUTTALL. In fact we wonder that there are not more of them domesticated than there are, as it is a matter of no difficulty, and they would make beautiful ornaments for a country seat. They would take the place of the Peacock and the horrid Peahen or Guineahen, whose only delight seems to be to make a most unearthly noise at all times and in all places. Had we our own way we would cause all of the latter named pests to be exterminated.

The Wood Duck breeds from the first of April to the first of June, according to the latitude of the place it selects. In the Middle States the 12th to the 18th of May is the usual time. They invariably breed in the holes of trees, and AUDUBON observes that he has never known "one of these birds to form a nest on the ground, or on the branches of trees." They select a hollow in a broken portion of some large branch. They have been known to build in the deserted hole of a squirrel or the abandoned nest of the Ivory-billed Woodpecker, *Campihilus (principalis* of GRAY.) AUDUBON says: "Once only I found a nest (with ten eggs) in the fissure of a rock on the Kentucky river, a few miles below Frankfort. Generally, however, the holes to which they betake themselves are either over deep swamps, above canebrakes, or on broken branches of high sycamores, seldom more than 40 or 50 feet from the water."

They make their nest of a large quantity of feathers, many of which are taken from the breast of the female bird. Upon this soft receptacle she deposits from ten to fifteen eggs. We are unable to describe them ourselves as they are not in our cabinet, but we will give AUDUBON'S description: "They are perfectly smooth, nearly elliptical, of a light color, between buff and pale green, two inches in length by one and a half in diameter; the shell is about equal in firmness to that of the Mallard's egg, and quite as smooth."

It is a characteristic of all duck's eggs that they are very smooth and hard shelled. They all have a glossy polish and can be written on without difficulty.

As soon as the female has laid her complement of eggs the male very ungallantly leaves her by herself to hatch them. His presence does not cheer her during her arduous duties of incubation. He in company with many other males form themselves into a large flock and remain apart from their mates until the young are able to fly, when both sexes re unite and remain together until the next breeding season. We are at a loss how to account for this behavior in the male, and can only suppose that it is done because he is unwilling to share the trouble incurred in the increase of a family.

If the nest be immediately over the water, the young birds flutter out of their nest and drop into their native element. When, however, it is some distance from it, the mother carries them to it, one by one, by means of her bill.

The young birds follow their parent along the grasses and shallow shores of creeks, ponds, &c. It is very amusing to watch them. Now one of the little fellows sees an insect floating on the water and darts out after it. Another suddenly makes a dive after some tender root of a weed which is growing under water. All kinds of insects and a variety of kinds of seeds form their food. They are excellent divers and disappear on the slightest alarm. They walk better on the ground than any of their tribe.

At last the young birds are able to fly a considerable distance. Now there occurs a grand re-union of the sexes, and here the father sees for the first time his sons and daughters! Oh! that some of our little birds could set them a lesson as to parental duty!

[A. O.] J. P. NORRIS.

## HISTORY OF THE CREVELING GRAPE.

L. TUCKER & SON—The Creveling grape has been known here for forty years, and is believed to be a seedling of the Fox. It was first known as a single vine growing near the house of a family named Wartman, near Bloomsburg. A slip was taken from it and cultivated by a man named Creveling. After his death, perhaps 25 years since, his widow removed to the village, and took with her a shoot of her favorite vine. It thus became known here, and plants were gradually distributed to neighboring towns. About 1860 it became known for the first time abroad, and now ranks among grapes of the first quality.

Its merits are, quality, earliness, size, persistence upon stem, productiveness, and capacity for keeping. The vine is tolerably hardy, of fair growth, and little liable to mildew.

In careless cultivation the bunches do not always set well, and it is found advantageous to plant the vines along with Concords. The pollen of the latter is supposed to impregnate the Creveling, and increase its fruitfulness. The *form* of the Creveling bunches, large and irregular, admits the sun and air freely to every berry, and they ripen very evenly and completely.

The name is correctly written with but one *l*, and it would be well for you to make your advertisements correct in this respect, until the spelling shall be fixed.

*Bloomsburg, Pa., Oct.* 14, 1865. C. R. BUCKALEW.

## WINTER OATS.

EDS. CO. GENT.—A gentleman writes me from Tioga county, N. Y., in relation to the winter oats, of which I happened to speak in a late number of your excellent journal, requesting a few seed, adding, "I was not aware there was such a variety of oats." I forwarded him the seed, adding that I had not time to write him the particulars about the variety, but would do so through your columns, with your permission.

Spring oats have been considerably cultivated at the South, since its first settlement, but as they ripen late, heading and maturing after the summer heat and droughts come on, they are so likely to be damaged thereby, that the product is very uncertain, and they can hardly be considered a profitable crop. For like reasons spring rye and wheat are not sown here, except that some put in the latter in autumn as a late sown winter wheat.

Winter oats, on the contrary, are of comparatively recent introduction, and for this climate prove a far more valuable crop. They were, I think, first grown under the name of "Egyptian oats." We believe, however, that they were originally introduced from France. In the Bon Jardinier it is stated that a winter variety is much cultivated and esteemed in Brittany and the west of France, but its success is uncertain in the east and north, where frosts throw it out and destroy it. It is very productive in straw and grain, which last is heavy and of excellent quality. It is sown in September or early in October, in districts where the winter frosts are not found. In others it is usefully employed for the first sowings in February or the last of January, which, if made with this species, are much more sure than the oats sown in March. This is particularly the case in light soils, which fear the effects of drought, and where, for this reason, the earlier sowings are most suitable. In these the winter oat is found very useful.

The oat mentioned above, we have no doubt is our white winter oat, known here as the "Jones oat." The straw is long, and it tillers freely, and the grain is much heavier than that of spring oats. There is also a black variety, of which the straw is not as rank, and which, upon trying it a single season, we did not think equal to our old sort.

We sow this crop here in the month of September or early in October, one bushel to the acre. It comes up in the fall, and affords a good deal of feed to stock in the winter. If they are turned upon it only in dry weather, and are removed as soon as the spring growth commences, the crop is not injured. Feeding stock upon it when the ground is soft, is not to be thought of. The amount of the crop varies of course with the quality of the soil, and also with the amount of rain that falls after it begins to shoot into head; but it is generally a profitable crop. It is most valuable in seasons following a deficient corn crop, affording abundance of grain and forage when the crib and fodder stack begin to run low.

These oats are also sown, as in France, the last of January and through February, but the crop, though more sure than spring oats, because it can be sown earlier, is not as large as if sown early. Sometimes, however, in very severe winters, the fall sowing is killed out, when a new seeding is given in February, which is ploughed or harrowed in, and more or less seed is applied, according to the extent of damage by the winter. Here spring sowings have yielded fine crops the last two years. By the way, winter oats, in hard winters, sometimes appear almost exterminated by cold, and yet rally, tiller out broadly, and a full crop results. We were particularly struck with a case of this kind in 1862–3, an excellent crop being gathered on land, we should have felt, had it been our own, inclined to resow. There are a good many of these oats sown in February, from the fact that fields are then at liberty that were occupied by crops at the proper time of sowing, and, moreover, it is a crop put in with so little trouble, at a time nothing else is being sown, that if it fails, partially or entirely, the loss is comparatively small.

Dr. Phillips, and many others, frequently sow with the oats in the fall, a bushel per acre of "long" or red cow pea, a species of *Dolichos*, and a very valuable crop here, but which you would call at the north not a pea, but a sort of bean. This requiring heat to germinate, lies in the ground through the winter, comes up very late in the spring, and is just ready to commence growth when the oats are removed, and in fair ground covers the soil with a heavy crop of herbage, and, to use the doctor's expression, "If on rich land, before frost, they will defy any animal to trot through them save an elephant."

Winter oats cut when fully ripe can be grown several years on the same ground without fresh seeding. My neighbor, Mr. Henry Brittain, has a patch of some three acres or so near his house, which at least 5 years ago, and I know not how long before, was covered with winter oats. When harvested the ground was plowed and sown broadcast with cow peas. These were cut for hay just before frost. In spring the field was again covered over with a fine stand of oats, which matured an excellent crop. Peas again followed as before. Some years, I think, but am not positive, this pea crop was fed off, but it was generally made into hay. In this way four successive crops of oats, with but one seeding, were made to my knowledge, and I think one or two before my attention was directed to the matter. One of these crops had a remarkably heavy straw, but was so affected with rust that it was left upon the soil to be consumed by swine. A plenty of seed was however scattered, and a good crop of sound oats followed the year after. In 1864 the ground was plowed up after the oats were cut and levelled for sweet potatoes, which were planted so late that the dry weather following prevented the crop from maturing. This winter the ground was again heavily covered with green oats, which were fed off, and as the beds were in the way of the cradler, the field was plowed over and planted in corn. This may seem incredible to northern ears, and I feel a little inclined to suppress the statement, bearing in mind the advice of Mr. Toombs to a farming friend. The latter wrote the Senator that he had made 50 bushels of measured wheat from one acre of land. This with us was an almost incredible yield. The reply received was that he would believe Mr. H., "but that any man who had skill enough to raise that amount of wheat to the acre ought to have enough good sense not to

risk his character for veracity by saying anything about it."

I do not think that winter oats can be of much value in your latitude, being decidedly a "southern institution." They may, however, prove valuable for sowing in the spring so early that the spring varieties if then sown would be likely to be destroyed. With us, both for working stock and swine they are a great resource before the corn crop comes in.

*Athens, Ga., Aug.* 21, 1865. WM. N. WHITE.

## PREPARATIONS FOR WINTER.

BY A HOUSEKEEPER.

**Pickles.**—Keep kegs or jars ready to receive your pickles as gathered. Those of no peculiar flavor, such as cucumbers, melons, &c., can be put together. Keep them in strong brine, a coarse cloth spread over them, and a weight keeping them under brine all the time. When you wish to prepare them for table use, soak them in a succession of clear water until free from salt. Then green them with grape leaves, in alum water, simmering them only. Scald them in strong vinegar for ten minutes, and tie up closely in jars. After a few days pour off this vinegar and pour on them strong boiling vinegar, with spices, horseradish, mustard, pepper, or anything you like, strewed between the pickles in a jar.

**Cold Pickles.**—Let your pickles wither after gathering. Have your vinegar salted agreeably, and strongly spiced; and cucumbers, nasturtiums, peaches, and many other fruits, are nicer for being pickled without scalding. The pickles require time for perfection.

**Mangoes** are made of young muskmelons, large peppers, tomatoes, or any hollow vegetable or fruit suitable for pickling. They are freed from seeds, and laid in moderate salt water for 24 hours; then scalded in vinegar. After a few days, fill them with chopped pickles, minced celery, scraped horseradish, mustard, and coriander seed. The piece cut out should be nicely fit in again. Hot spiced vinegar should be poured over them, and then they are kept as other pickles.

**Yellow Pickle**—Is made of white cabbage or cucumbers, or any blanched vegetable. The bleaching is done by keeping the vegetables in the sun, covered thinly with salt. They are proceeded with as any other pickle, only the spiced vinegar is highly colored with turmeric.

**Sweet Pickle.**—This most popular condiment is made of almost any fruit. Peaches are soaked in lye and rubbed free of fur; pears are peeled; plums pricked with a fork; cherries with their stems, grapes ditto, are laid in jars, the cherries with their leaves strewed between. Over the fruit is poured a syrup prepared by melting three pounds of sugar to one quart of vinegar. Amongst the fruit, delicate spices, such as cinnamon, mace, and nutmeg, are strewed. This syrup of vinegar is drawn off, re-heated, and poured over the fruit daily for a week. If the pickles do not taste sweet enough, add some sugar the last boiling.

**Walnuts or Butternuts.**—Keep in strong brine until you wish to make them up. Then scrape free of the gummy fur with which they are coated. Soak free from salt, and scald afterwards until tender enough for a fork to prick easily. Then make up another pickle, using onions and stronger spices than for sweet pickle.

**Catchups.**—These are made of walnut, tomato, or mushroom juice, procured by bruising; the mass being slightly salted, is after some hours severely pressed. The juice is then boiled to the consistency of cream, skimmed clear, and spiced as pickles.

Cucumbers grated up free of seeds; tomatoes chopped fine and then pressed dry, make delicious catchups. The dry pulp is seasoned with salt and pepper, and made as liquid with vinegar as you like.

Peaches mashed to a pulp, and seasoned with sugar, nutmeg and vinegar, is a nice and rare condiment.

**Flavored Vinegars** may be made by steeping the seed of any desired flavor in the vinegar until it is fully impregnated with the taste. Celery vinegar is nice for chicken salad, and pepper vinegar on sauce much used by gastronomes.

If cabbage or celery are scarce, or if you wish to have their use extended beyond their natural season, chop them fine and keep them under strong, cold vinegar. They answer well respectively for hot slaw and chicken salad.

## PRESERVATION OF FRUIT.

The preservation of fruit is an object of great importance, and to preserve it, in as natural a state as possible, is what we all desire, more particularly such fruit as apples, pears and grapes. The time for gathering fruit depends upon certain conditions, and the manner of gathering them in a measure influences their keeping. A fruit room should be dry, cool, and have equality of temperature. Fruit should be gathered during dry weather, care being taken not to bruise it, as the injured part soon rots and spoils the sound fruit that comes in contact with it. Apples gathered during wet weather or early in the morning should be exposed to the sun to dry; on no account wipe them, as this rubs off the bloom as it is called, which to some fruits acts as a varnish, closing the pores and preventing the evaporation of the juices. Avoid laying apples in heaps for any length of time as it causes them to sweat and undergo a slight fermentation; and fruit that is thus treated, if it does not spoil, gets dry and mealy. By observing these directions, apples may be laid in well ventilated boxes and barrels and kept a long time. Some think grapes keep better when hanging than when laid upon the table—either way the cut end should be closed with wax to prevent exhalation—some hang them by the stalk, others by the point of the bunch, as in this way the grapes are less pressed against each other. I know of some Rogers' Hybrid grapes, No. 15, that were kept until last May in excellent order by being laid upon a shelf; and a certain amateur whose faith in these unrivalled Hybrids had been very weak, was convinced of their superior quality, by testing them at that time.

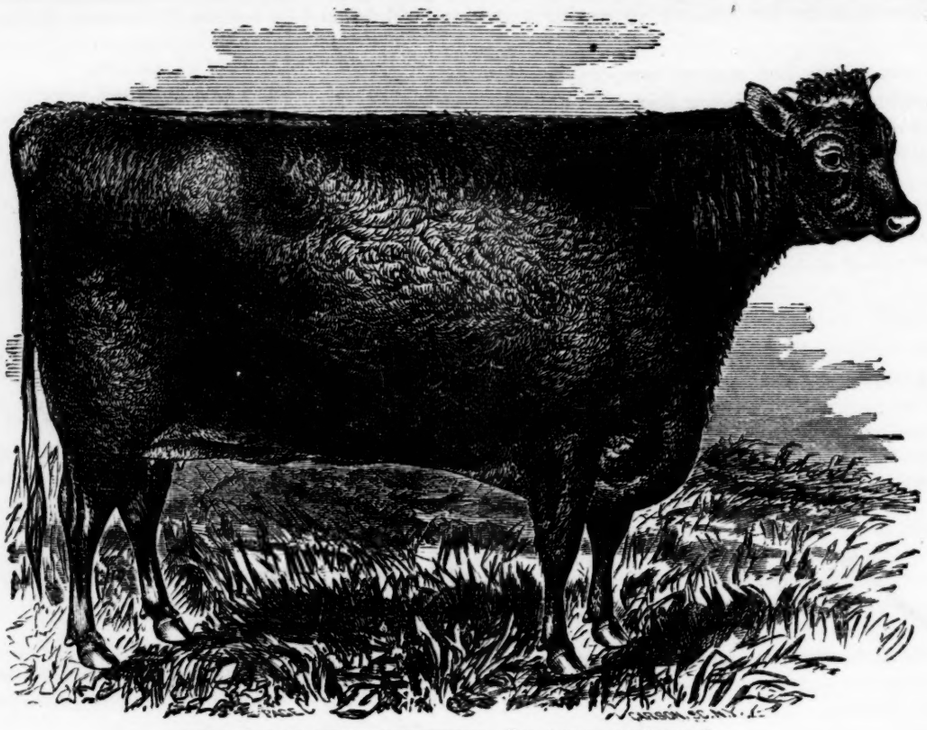
*Melrose, September*, 1865. O. H. PECK.

## CURL OF THE PEACH LEAF.

EDS. COUNTRY GENT.—Our experience here does not sustain Dr. Kirtland's idea, that rusty iron applied to the roots of peach trees will prevent the *curl* of the leaf. Iron ore abounds in the soil of my peach orchard, and yet certain varieties curl so bad as to be entirely worthless. Nor does a vigorous growth seem to prevent it in the least. A thrifty tree, however, recovers a healthy foliage sooner than an unthrifty one.

Writers on this subject do not seem to be aware that the trouble may be avoided by the selection of certain varieties, such as Crawford's Early, Morris White, Cooledge's Favorite, Hyslop's Cling, &c., and avoiding such varieties as Geo. 4th, Troth's Early, Heath Cling, Crawford's Late, Red Cheek Melocoton, and others; but such is the fact according to my observations in this part of the country. Troth's Early curled so badly for several successive seasons that I pulled them out, while Hyslop's Cling, ten feet distant, has never been troubled in the least with it. A tree of the Heath Cling curls pretty badly every year; on each side of it stands the Cooledge's Favorite and Morris White, entirely free from it. J. A. D.

*St. Joseph, Michigan.*



SHORT-HORN HEIFER "LADY MARY,"

Winner of the "sweepstakes premium," (Society's medal,) open to U. S. and Canadas, offered for the best Short-Horn cow or heifer; also of first premium as a yearling heifer, at the late Show of the "New-England Ag. Society" at Concord, N. H. The property of H. G. White, South Framinghim, Mass. Pedigree as follows:—Red; calved January 27, 1864. Got by Hotspur 4030, out of Baroness by Barrington 1229—Red Rose 2d by Napier (6238)—Tube Rose by South Durham (5281)—Rose Ann by Bellerophon (3119)—Rosette by Belvedere (1706)—Red Rose by Waterloo (2816)—Moss Rose by Baron (58)—Angelina by Phenomenon (491)—Anne Boleyn by Favorite (252)—Princess by Favorite (252)—Brighteyes by Favorite (252)—by Hubback (319)—by Snowden's Bull (612)—by Masterman's Bull—(422)—by Harrison's Bull (292)—by the Studley Bull (606.)

## "Goodrich's Early Seedling Potatoes."

Last May, not so early by some days or a few weeks as we might have done, we planted a peck of these potatoes. The ground on which they were planted was a clay loam underlaid with limestone. The crop for 1864 was buckwheat. For three years previous to 1864 it had been potatoes, with slight manuring spread over the surface.

Last spring the buckwheat stubble was plowed in at the time of planting, the ground harrowed, and in order to give them full temptation to rot a heavy manuring of unfermented manure was put in the hill, and on this manure a table spoonful of plaster was put in each hill. This, of course, had a tendency to check the fermentation of the manure. The potatoes were cut for economy sake, and two or three small pieces put in each hill. They were once hoed, and here the expense of cultivation ended.

As we wished to keep our present crop for seed, if it did well, we were in no haste to dig any. About the 20th of July, however, we concluded to try *one mess*, which was accordingly dug, and we found them of good size and plenty in the hill. They cooked dry and mealy, like matured potatoes. Aug. 8th we tried another mess, equally good. We then found the vines were drying from maturity—not from disease or accidental cause.

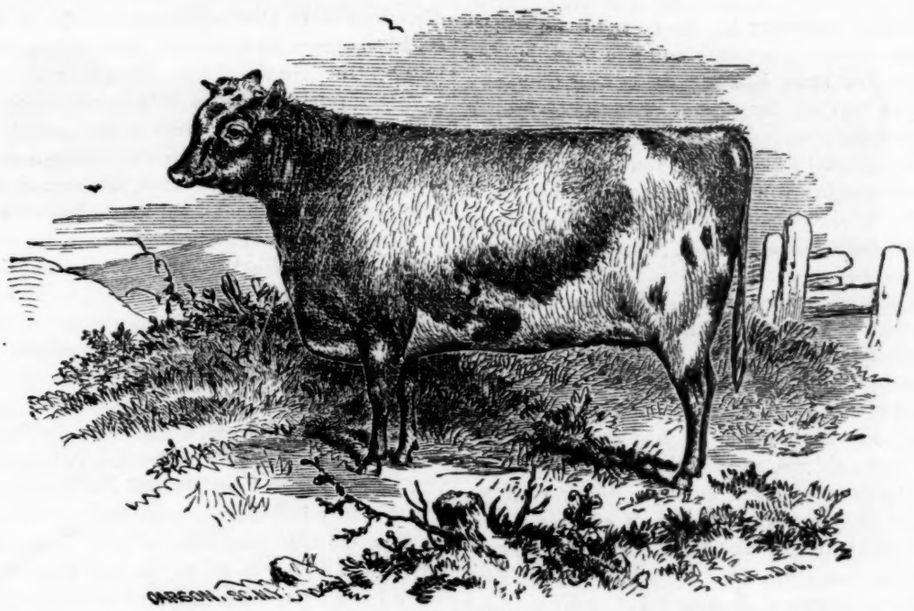
August 21st the crop was dug and stored in a dry loft. At this time the vines were perfectly dry: no potatoes, not even the smallest, adhered to them on pulling. The crop from this planted peck was large, and full five bushels. Near the centre of the patch a limerock rose so near the surface that about a dozen hills were nearly lost by dryness. Had these hills yielded like the others, the crop would certainly have been six bushels, or at the rate of twenty-four bushels from one bushel of seed. A pretty fair yield for any potato, early or late, in this region.

The superior earliness of these potatoes is apparent. Our crop was not planted with a view of fully testing their merits in this matter. The soil and season would have warranted planting them two or three weeks earlier, thus giving them a proportionately earlier maturity. Then we are in a high locality, where winter holds the reins of spring almost until summer claims her place in the circuit of the season. So we conclude that vegetables which are early here, will be earlier in more favorable localities.

Its healthiness makes it a potato particularly desirable. We never saw stronger or more vigorous vines, yet they were not of large and unsightly growth.

The potatoes were all of good size for cooking. No overgrown, large ones; but very few small ones. They are very smooth, having but few eyes, and those with scarcely an indentation. They are easily and quickly boiled or baked, and when brought to the table possess, very eminently, the white, mealy qualities that make good potatoes so valuable an article of diet. Taking them all and in all, we have never seen any other early potato equal to them. Such is our experience thus far. WILLIAM BACON.

*Richmond, Mass., Aug. 25, 1865.*



Short-Horn Heifer "Arzie," property of GEORGE H. BROWN, Washington Hollow, N. Y

To which was awarded the first prize as a heifer calf, at the New-York State Fair in 1864.

## RELATIVE VALUES OF LAND.

EDS. CULT. & CO. GENT.—It seems to me that a few words upon this subject may perhaps be not altogether unworthy of your columns, or of interest to your readers.

A respectable farmer and very extensive landholder of my acquaintance, once remarked that a man could not, as a general rule, well afford to pay more than fifty dollars per acre for land, for the purposes of farming. I think that considering the sense in which he spoke, he was in the main correct. Of course this declaration, like most others, has its exceptions.

Farmers, then, who purchase lands strictly for the purpose of realizing a legitimate profit by the process of farming, will do well to consider what constitutes the real or intrinsic value of land.

In the first place, what are the essential qualifications to a good home farm—a farm upon which a man can live and thrive and prosper—upon which he can raise a family, have time to read the papers, attend church, social meetings, &c., and yet save enough to maintain him in the decline of life with ease and comfort?

In reply to these requirements I would say—our farm, to be eligible for these purposes, must possess the following qualifications:

1. Good natural soil, and good healthy pure water.

2. About three-fourths of the tillable land should be slightly rolling or level.

3. At least one-fourth may be hill, and must contain a large proportion of good and useful timber.

4. The land should be well fenced, and improved with not less than a good house, barn and stable.

5. The farm should be adjacent to good roads, and convenient to a market, post-office, schools and church.

Can such a farm without drawback, be purchased for less than fifty dollars per acre? I argue it cannot. Farms in the neighborhood of large cities have in many instances reached an artificial value. Prices range say from $75 to $300 an acre. It is true that a system of labor properly applied for horticultural purposes, may develop a large and remunerative interest, but this is foreign to the question we are now discussing.

Upon the other hand, lands may be purchased very cheaply in some localities. I have travelled through portions of Indiana, Illinois and Michigan, and find in Illinois, for example, that there are immense tracts of very fertile lands that can be bought cheap. Near railroad stations lands may be purchased for $15 and $20 per acre, unimproved; farther from the stations, but adjoining railroads, say $10 and $12 dollars per acre. Place improvements upon these lands, and their value is at once increased $10 or $20 per acre. If we go farther back into the heart of the great prairies, we can obtain lands for from $3 to $5 per acre, and so on.

In conclusion, I beg leave to submit the inference, that where men have small capital, they can do well to purchase cheap lands, and improve in proportion to their means. When men possess a moderate capital, they can with saftety venture to pay $50 per acre for farms embracing the foregoing advantages; but in no case can they pay extravagant prices and farm profitably. HENRY B. *September* 13, 1865.

**A New Hall of Horticulture.**—The New Hall of the Horicultural Society at Boston was dedicated with appropriate exercises, Sept. 16th,—the President, C. M. HOVEY, delivering an appropriate address on the occasion, in which he reviewed the history and growth of American horticulture, and described the organization and first meetings of the Society in 1829.

**Real Estate in England.**—A small freehold estate of about 244 acres, in the parish of Merton, Surrey, and about ten miles from London, was lately sold for the extraordinary high price of £60,000, being at the rate of nearly $1,250 per acre.

## How to Build a Barn---Barn Literature.

If it becomes necessary for one to fight, he should know where his weapons are; and if a man builds a barn for the first time, it is important that he have a model before him, on the ground or in the books. It requires no considerable study in the first place, to ascertain exactly what sort of a barn you want; then you must decide whether you will stable your cattle in the cellar, if you build on the hill-side, or on the floor above, and use the cellar for a manure pit. Each plan has its advocates, but in our cold climate cellar stables for cattle are not objectionable if—and there is great weight in that if—proper precautions are taken to have good ventilation and dryness. Assuming you decide to build in a side-hill, and have an embankment of stone against the earth, of what height shall it be; how broad; in what manner ditched and laid? You consult your neighbors, and they all differ in opinion; one thinks a dry wall good enough; another prefers mortar, but does not see the need of a drain. You consult a country mason, and he is as oracular and undecided as the farmers. At last you turn to the books. Todd's Young Farmers' Manual § 194, may mislead you as to the direction the wall should be *battened*, as you may gather from that the inclination should be toward the bank, when it should be *from* it, so that when the frost heaves, the earth should be thrown away *from* the wall. Other sections of the same work will give good advice as to drains and laying up. In vol. 2 of RURAL AFFAIRS, you will learn how to secure the cellar from freezing without banking up on the sides the portion of the wall above ground. But you will nowhere, so far as I can learn, find any complete directions as to all the necessary details of this important matter. After much botheration and examination of authorities, I came to the following conclusions, and built accordingly: A wall against a bank eight to ten feet in height, requires a drain under it from two to three feet in depth, with proper inclination, and filled with small stones. Base of the wall three to four feet, and battened on the outside to width of the barn sill at the top; laid in lime and mortar, with a little—say one-fourth part—of water cement mixed with them, otherwise if the hill above is pretty steep, the water will ooze through the earth and the wall. It did so to mine, and I had to dig the earth again from the back of the wall, and cement it all over. See that the *back* of the wall is laid up smooth, as well as the front so that the frost won't get hold of the uneven edges of the stones, and use them as a lever to pry up the wall. To further protect the wall and keep it dry, and the occupants from suffering from disease produced by dampness, put a drain the length of the wall five or six feet above it, to carry off the water from the hill. Have windows in every side, double on the north and west, and the inner ones arranged to lift and hook up.

Assuming the building above is up, how shall the cellar be arranged?

In planning this before you build, see that the measures are given in the *clear*, and not let the outside wall take two or three feet from your manure pit or other important portion of the cellar; and in calculating the height of the cellar, allow a foot or more for the flooring; eight feet in the clear is none too high. "RURAL AFFAIRS," vol. 2, p. 268, gives directions as to the length and width of the cattle stalls, mangers, gutters, &c., and different modes of tying cattle. In the COUNTRY GENTLEMAN of July 10, 1862, are representations of the most convenient stanchions in use, and they seem to be getting into favor wherever cows are kept for dairy purposes. My rows of cattle face the feeding floor, the manure pits being behind the animals, and the cattle floor is raised two or three inches, and just long enough, (5 or 6 feet, according to size of cattle,) to allow the manure to drop into the gutters behind, which are to be kept partly filled with absorbents, so that all the excretions can be shovelled into the pit. For root cellars, see COUNTRY GENTLEMAN of Jan. 6, 1865. But Hamlet would be left out of the play if that ventilator pictured in the REGISTER OE RURAL AFFAIRS for 1862, p, 133, and applied and approved by Mr. Peters, (see COUNTRY GENTLEMAN April 21, 1864,) were omitted. Without that in mid-winter, if your barn is well built, your cattle will suffer from want of pure air; the manure pits will not only saturate the hay and grain above, but fill the cellar with offensive odors, and the unnatural warmth of the stables will cause the hair to fall off from the cattle as spring approaches.

Designs for the upper stories of the barn are common enough, but I have found none better than those in the two published volumes of the ANNUAL REGISTER OF RURAL AFFAIRS, Allen's Farm Book, and back numbers of the COUNTRY GENTLEMAN. For details of carpenter's work see Todd's Manual. Mineral paint answers all the useful purposes in the country, and is much more lasting than any wash, and more than half cheaper than oil paint. The principal objection is that the color approximates to that of ordure, but as it is on buildings in which or under which that article is supposed to be extensively manufactur ed, that difficulty may be overcome or overlooked.

In these drouthy times we appreciate the advantatages of plenty of water, and yet I see about me farmers driving their stock from one-quarter to half a mile to water, morning and evening, when a cistern or small well dug near their barn, to receive the water from its eaves, when there *is* rain, would afford a sufficient supply for all the purposes of the farm.

In volume one, page 70 of RURAL AFFAIRS, are directions for building complete cisterns; and in Allen's American Farm Book, p. 312, is an account of very simply constructed ones, which the author says he has tried and found effectual. I have found a common well-hole dug and stoned up dry, hold the water from the barn in our hard soil, and if dug deep enough to reach the water below, then it fills up from both ends, and runs no risk of ever failing!

I propose to dig a large cistern in the hill above the barn, and a few feet from it, stone it up in cement, turn the water from both sides of the barn roof into it, and have a small pipe run from near the bottom, through the cellar wall of the barn, and along the inside of the end wall to a reservoir in the yard, so that water will at all times be accessible to the cattle.

If these hints are serviceable to any one in removing difficulties akin to those under which I labored when commencing my undertaking, I shall feel adequately repaid for putting them on record. R. G.

*Lenox, Mass.*

## Breeding and Management of Colts---No. 3.

During the months that a mare is carrying her foal she should be liberally fed with good, clean, nutritious food, and should not be allowed any that is heating, musty, or otherwise unfit for any valuable animal to eat. Damaged fodder of any kind is not fit for a horse to eat, and should be thrown into the barnyard for the cattle to pick at, and trample under foot for manure. Corn and Indian meal are heating and unsuitable food for a mare with foal; green food and oats through the summer, and good sweet hay, carrots and oats during the winter, is the best food.

There is nothing gained by starving a mare while she is in this condition, but it will pay well to be liberal to her, and her offspring after it comes into the world. If the mare is expected to foal in March, or the first of April, she should be put up every night in a roomy, warm, comfortable stable, but not deeply bedded, and she and her young colt should be kept up nights until the first of May. If she foals in the night, as they usually do, in the morning she should have a pail of water with the chill taken off, and a bran mash given blood warm, and a small lock of hay. If the weather is raw or chilly, they should not go out, but if warm and pleasant, they will be all the better for running out where they can get the sun, which will do them both good, and strengthen the colt very fast; they are very fond of stretching themselves out on the ground where the sun can shine on them.

The mare should be turned into short pasture at first, and have a little oats twice a day. The oats will strengthen her, and make her milk richer without increasing the flow much. The colt while so young cannot take much milk, and if the mare is given such food as will make a great flow of it, there will be danger of having trouble with her bag unless she is milked. After the colt is two weeks old the mare may be shifted into better pasture; but the oats must not be discontinued; they make the milk rich, and that is what is desirable—not quantity, but the quality; any abundance of poor, watery milk will not make a fat, thrifty, fast growing colt.

At two months old the colt will begin to eat oats to its own great advantage, and they should always have a reasonable allowance of them; and they should be continued until pasture gets good the spring that the colt is a year old, when they may be discontinued entirely until the following winter.

When the colt is three months old, if the mare is not a good milker, barley meal may be substituted for her oats, which will greatly increase the quantity and improve the quality of it. From 4 to six quarts a day may be given, according to her size and qualities as a milker, and the abundance and quality of her pasture; but four quarts is sufficient for almost any mare unless she works, when nine quarts would be about right. There is nothing equal to barley meal to make a mare give milk, that I have ever discovered.

The time for weaning must depend upon whether the mare is to be kept at breeding; if not the colt should run with her for six months; but if she is with foal again, it may be weaned at four months old, and should not be allowed to run with her for more than five, for what this colt draws from the mother, is just so much drawn away from what is to make up and support the one that is to follow.

If the colt was allowed to run with the dam throughout the year, she would not be able to support the two. In consequence of the great drain upon her system she would get poor, and the youngster when it came into the world, would be the merest starvling, perhaps unable to stand, and would have received a stunt that it might never recover from. Some mares will not allow this privilege to the first one so long, and others would.

If the first colt is of very valuable stock, and is a fine specimen, some say give it every chance, for the next one may not be of any value; but I think it best to give them an equal chance, and have two ordinarily good ones, rather than one superior and the other worthless.

The mare will be in season again nine days after foaling, and this is the surest time to get with foal; if not served at this time, she will be in season again in six weeks, which is a better time, on account of its giving her colt a longer time to run with her. The colt when three months old, will eat a quart of oats in a day; when it is weaned it may be doubled for a few weeks, when, if the pasture is good, it may be reduced to one again until it is taken up for the winter, when two quarts should be its allowance. The colt should run out every pleasant day through the winter, and be put up in a good warm stable every night.

(To be continued.) H. C. W.

## Goodrich's Seedling Potatoes.

Seeing a correspondent has sent you the result of his experiment with the "Goodrich Potatoes," perhaps mine might be acceptable also. From your advertisement, I procured last spring one peck each of the "Early Goodrich, the "Calico," and "Gleason," of D. S. Heffron, Utica. I planted them all in rows three feet apart on the 19th of 4th mo. (April.) The latter two I have not yet dug; the former I gathered on the 25th of 8th mo., (August,) though fully ripe some time before, and the result I quote from my memorandum, as follows:

Seed smallish—row 108⅔ yards long—yielded 6 bushels of potatoes. This was twenty-four times the amount of seed planted, and at the rate of 267 bushels per acre, (44½ rows per square acre,) planted three feet apart, or 534 bushels if rows would produce equally well at 18 inches apart, the common mode of planting them here. Required 54 feet to make a bushel. The season has been dry; they had little culture, and and a portion of the row was in heavy clay, in which all other seeds germinate imperfectly and do poorly, and I therefore think that with larger seed and more favorable circumstances, the yield would have been at least one sixth more, or at the rate of 300 bushels planted three feet apart, or 600 bushels at 18 inches, at which distance I believe other kinds grow as large and abundant as when farther apart. I neither planted nor gathered them with a view to test their *earliness*, though very early in the season, when on several acres of Mercers and other kinds, there were none as large as a marble, these were good sizeable potatoes for sale or the table. The above measurements were all accurately made by myself.

*Near Philadelphia.* W. WILBERFORCE WISTAR.

Sometimes words wound more than swords.

## ROTATION OF CROPS---No. V.

### Wheat Culture in Connecticut.

Wheat, as commonly raised without regard to rotation, is subject to a variety of diseases, etc. But when raised in the course of a rotation the liability is very much reduced, as found in experience. The soil here is well prepared to yield abundant returns, from having been often stirred, kept free from noxious weeds, and having had yearly application of manures, which have become fully incorporated in the soil, or at least certain portions that remain have. Of the varieties of wheat grown, the White and Winter is preferred to other sorts.

*Plowing.*— The crop of tobacco being harvested about the first of September, as soon after as convenient let the land be well plowed, about six inches deep, when it is ready for the seed.

*Selecting and Saving Seed.*—To obtain good seed, that from different localities in the same climate should be compared, and when the best is found, secured, even if at an apparently large cost. Measures should then be taken not only to retain its good qualities, but to improve them by careful growing and selection. That grown for seed only, should be grown separate, allowed to ripen fully, be saved and thrashed by itself. It should be screened through a sieve which will allow the smaller seeds to pass while retaining the largest. A further division, made by throwing it across a long floor, where the lighter will fall short, and can be separated from the heavier, is desirable, as giving only the best and heaviest for seed. Grain grown from seed selected in this manner, will never fail of improving and giving satisfaction.

*Sowing.*—Previous to the middle of September is the best time, and broadcast the most generally practicable. Two bushels of seed to the acre is the proper quantity of the generality of wheat. This should be washed in a brine that will bear up a potato, spread and dried before sowing. The ground should be thoroughly harrowed with a heavy harrow, to cover the seed, tear out the tobacco roots, and even the soil; the roots should be divested of all adhering soil, and carted to the compost heap, after which sow twelve quarts of timothy seed, with the addition of one pint of small clover seed mixed, to the acre. Finish off by harrowing with a fine seed harrow, which should leave the surface smooth and even, ready when the wheat is off, for the machine or scythe, as well as the wire rake.

*Harvesting.*—Wheat should be cut when it will make the best and most flour; this is found, so far as experimented, to be when the grain is in the dough state; while it yields to pressure it gives out no milk. In this state it makes a whiter, sweeter flour, and also more of it, with less shorts or bran than when cut in an earlier or later stage. The grain also wastes less in gathering than when ripe, the straw is much better for fodder, etc. The mode of cutting at the present day, when labor-saving machinery is so common, is different from that of former days. The sickle and cradle used by manual strength, are superceded by the reaper propelled by horse power. Whatever the mode of cutting be, whether by either of the foregoing, the binding, shocking, etc., should be well and thoroughly done, to withstand the necessary handling in carting, etc., and the danger of storms. The bands in binding should be tightly drawn and secured, as in curing, the straw shrinks, and as a consequence the bands are loosened, and often the work is delayed when expedition is necessary.

*Shocking.* — Usually twelve sheaves are put in a shock, ten in the body and two as cap sheaves; this cannot be too well done; the butts are firmly placed on the ground in the stubble, and well balanced against each other, the tops well pressed together, and the top sheaves well spread out, firmly put on and fastened. As soon as the straw is cured the grain should be hauled to the barn and housed, ready to be thrashed at leisure.

In the foregoing brief treatment of crops comprising this rotation, I have intentionally omitted giving any statistic returns, preferring rather the advocacy of a systematic rotation of crops, thorough preparation of the soil, generous application of fertilizers, clean culture, and a judicious selection and saving of seed. I would, however, here remark, that the returns are better proportioned to the amount expended than a less thorough system. I have frequently seen crops harvested and turned into market, in the production of which a certain amount of material and culture had been expended, which, with the addition of one eighth to one-fourth in culture and preparation for market, would have net the producer from one-third to one-half more, the greater part of which would have been clear profit. This matter of extra culture, etc., is not viewed by many extensive cultivators in its true light; with them it is the number of acres. It is the study of those with less means, how to make the fewer acres compete with the more. To the latter class we are mainly indebted for many of the improvements in agriculture. WM. H. WHITE. *South Windsor, Conn.*

## MANAGEMENT OF PASTURE LANDS.

I have read with much interest the discussions at your late State Fair, on the above subject, as published in your paper. It is rather strange that among practical gentlemen of so much intelligence, there should be exhibited such diversity of opinion as to the advantages to be derived from keeping lands permanently in pasture.

It is to be regretted that in giving the results of their experience and observation, the speakers did not state the character of the soil upon which the experiments were made; and I have a strong conviction that if this information had been furnished us, it would have explained the statements which appear in your report to be so strangely irreconcilable and contradictory.

Before proceeding to state what I suppose to be the explanation of these different results, I observe that my own observation and experience have reference especially to the lands in the Scioto Valley. The bottom lands of this stream and its numerous tributaries, you are aware, have a surface soil of great fertility—a deep black, vegetable mold, under which we generally have a stratum of redish clay, not very tenacious. This latter in many instances, rests upon a bed of pure limestone gravel. North of Columbus, on the west side of the river, the formation is limestone rock, while on the east we have shale and sandstone. Be-

low Chillicothe the sandstone formation underlies the whole valley.

The timber upon the bottom lands is walnut, sugar tree, blue ash, &c., denoting with us the best quality of land. Ascending to the high lands, we have generally strong, stiff clay soils, with white oak, hickory, and white ash timber. Farther back from the streams we frequently have a low black soil, resting upon a blue clay, the timber being white elm, burr oak, &c. The bottom lands, and the flat black lands, are equal to any lands in the world for corn; but they are also unsurpassed for pasture lands and meadow, and these lands I am very confident from observation and experience, produce the best and most abundant pasturage where they *have never been plowed.* I might refer to a great multitude of instances in proof of this statement. On these lands it is, I believe, the testimony of all our farmers, that old pastures are by far the best. But it will be observed that with us grass is used principally for the production of beef; we have no dairies, and therefore we are not able to give an opinion as to the value of old pasture for the production of milk. The grass upon our old pastures where the land is dry, is principally blue grass, (*Poa pratensis,*) which upon the lands of which I now speak, flourishes as well as in the blue grass regions of Kentucky. Where the lands are wet, our principal grass is red top, which *stays* as well as the blue grass. My own experience is, that timothy and clover will produce more milk than either of the other grasses. I do not mean more per acre, but from actual experiment I do know that a cow upon a good pasture of timothy and clover, will give more milk than upon a blue grass pasture equally good. But the old blue grass pasture will carry more cattle, and put on flesh much faster.

So much for my experience and observation as to our rich, black lands. Upon our stiff clay lands the results are entirely different. Here, as a general rule, our pastures are benefitted by plowing as often as once in five or six years. This, I think, is the current of the testimony of practical men who cultivate these lands.

In favor of the practice of never plowing these lands it is urged that to produce good grass we must have a rich surface, and that from the decay of leaves and other vegetable matter our lands in a state of nature have a better surface than we can expect to procure by cultivation, which is all true enough. But it is well known that a soil that is so tenacious as not to be penetrated by air, will never produce a good crop, and our clay lands in their natural state are generally in this condition, the stiff clay appearing close to the surface. By cultivation and exposing the subsoil to the action of the sun in summer, and the frost in winter, and especially by the agency of the roots of red clover, we render the soil more permeable and mellow, and every day increases its capacity for the production of grass. But ordinarily this condition, when we have secured it, will not long continue, for there is a constant tendency in these soils, when saturated with water, to settle into their former tenacious condition. When therefore the pasture begins to fail upon clay lands, surface manuring is no adequate remedy; it will all be washed off on the surface. And I insist in this case, even against the testimony of JOHNSTON, that for lands in this condition, the best practice is to apply the manure green and plow it under. It is the best, not only because in this way we save all the fertilizing matter, but because of the mechanical effect in rendering the soil porous and permeable.

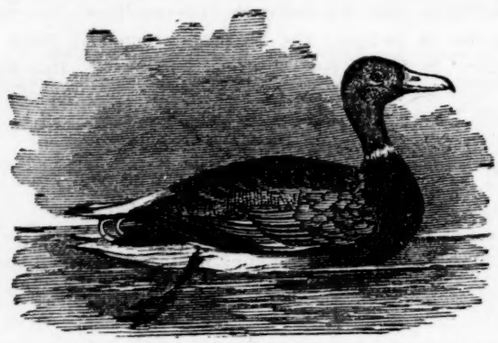
It is probable that if these clay lands were thoroughly underdrained, which, with us, would cost about as much as the lands are worth, they might be profitably used for permanent pastures. But in their present condition it is very certain that the more profitable practice, when the grass begins to fail, is to break them up and plant to corn, giving us the benefit by its cultivation of exposing the soil to the action of the sun through the summer. In this crop, what is called the "flat cultivation" should be avoided, as it is the worst possible for this sort of land, which should never be left flat through the winter, but in ridges rather, so as to give the least injury from standing water, and the greatest benefit from the action of the frost. The common practice is to follow the corn with oats, then wheat with timothy, and the red clover to be sowed the following spring. But if the object were merely to renovate the pasture, I would upon these lands, apply all the green manure that could be spared in the winter and spring, after the corn crop was taken off, plow it under, and sow a mixture of timothy, red clover, blue grass and orchard grass, without any grain crop. Red clover should be included in the mixture of seeds, principally on account of the effect it would produce upon the soil, as before explained. It will cause a much better growth of the other grasses. BUCKEYE. *Delaware, Ohio.*

## Farm Lands near Fredericksburg, Va.

EDS. OF CULTIVATOR—Permit me to answer a question asked in a late no. of your paper—"Where shall I buy a farm?"—by bringing to the notice of the writer and any others interested, this section of Virginia. Having resided in Stafford county for the last nine years, I may safely pronounce it as healthy as any part of the United States, being far enough removed from tide-water to escape the miasma from their meadows and swamps, and yet near enough to give us good markets for purchase or sale. With a soil, though by no means the richest, yet capable of being made very profitably productive, or in other words, with judicious cultivation and manuring it yields paying crops while it grows fat. The climate of the Piedmont district of Virginia, is of that delightful mean that well deserves the appellation, "the Italy of America."

Possessing all these advantages, it is yet surprising that improved farms can be bought for $10, $20, or $30 per acre, varying according to the state of improvements and location, while there are some tracts which can be bought for $5 to $8 per acre. But this will not long be the case. The owners of land here will soon learn that they are selling their lands below their market value, and will raise their price accordingly. And for the satisfaction of that timid class who ask the question—"Is it safe?"—I emphatically reply: Yes, perfectly safe, to every well disposed person who comes here to better his situation, to mind his own business, and to help build up the country.

*Fredericksburg, Va., Oct. 12.* ABRAM VAN DOREN.



MALLARD DUCK---*Anas boschas.* LINN.

The Mallard duck is the original of the well known domestic duck. It is impossible to give the date when the Mallard was first domesticated, but it is very certain that it was a very long time ago. Some domestic drakes have almost exactly the same appearance as the wild ones, but the female seems to have undergone more change, for we find her of nearly all of the hues of the rainbow, besides various other colors.

Every boy and girl is acquainted with the domestic representative of this bird, and as many of the habits of the wild bird very closely resemble those of its barnyard relative, we will be necessarily brief, because we are afraid that our readers will not thank us for telling them what they already know.

The Mallard is truly omnivorous, its food consisting of anything and everything. It has a most enormous appetite, and to satisfy it we have seen domestic ducks swallow substances which they could by no possibility derive any nutrition out of, and which we therefore conclude were eaten for the mere pleasure (?) of swallowing them. We refer to such things as string, rags, wood, &c.

The wild Mallard feeds both by day and by night when not disturbed, but where they are interfered with they feed chiefly by night, or very early in the morning.

The flight of the wild Mallard is rapid and well sustained. When flushed it rises with a single spring, and flies almost perpendicularly for thirty or forty feet, and then changes its direction to a horizontal line. According to AUDUBON they fly when on a journey, at the incredible speed of 120 miles an hour!

The nest of the wild Mallard is a very simple affair-consisting of weeds and grass arranged very careless, ly. The nest could be made by the birds in half an hour. Seven to ten eggs is the number laid. They are of pale, dingy green color, and measure on an average 2¼ inches long, by 1⅝ inches broad. A specimen in the writer's cabinet (presented by the Smithsonian Institution) measures as follows:

Smithsonian Institution cabinet No. 6080 (registered.)
Collector's original number, 13.
Locality: Lake Winnipeg.
Length: 2⅛ inches.
Breadth: 1 6-8 inches.

Specimens in our cabinet from Illinois vary very little in size, and not at all in color.

They raise only one brood in a season, which follow the parents as soon as hatched.

[A. O.] J. P NORRIS.

**Watermelons.**—Mr. Roessle of the Delevan House in this city, has three watermelons, grown on his farm, from one vine, one of which weighs 42½ pounds, one 41 pounds, and one 36½ pounds.

## IMPORTANCE OF THE GRAPE.

There exists at present through the country what many regard as a *grape mania.* We think it hardly deserves this name, although some cultivators may be more sanguine of profits and success than facts will warrant. The numerous authenticated statements of the high profits sometimes resulting from the sale of the crop, varying, under good management, from four to nine hundred dollars per acre, in favorable seasons, have produced almost a wild enthusiasm in that portion of the community who like to make money. In this particular it is probably carried to an extreme. But in relation to the value of the grape crop as furnishing a supply of fresh and excellent fruit to families, from mid-summer (if we get earlier sorts) to the succeeding spring, its value is hardly yet appreciated.

We observe a striking indication of the deep interest felt in grape culture at the late meeting of the Fruit Growers' Society of Western New-York. The room was crowded with eager inquirers after truth—many could not gain admission, so long as the discussion on the grape lasted. But as soon as it was discontinued, and other topics taken up, the audience was immediately thinned, and no difficulty was found in procuring seats for all.

We would not in the least degree discourage the present interest on this subject, and we hope our correspondents will give us all the facts they may possess in relation to it. In the above remarks as to profits, &c., we do not allude to the manufacture of wine.

## THE EARLY GOODRICH POTATO.

DEAR GENTLEMAN—I have just read Mr. Bacon's statement of the Early Goodrich potato. It is a pretty good story, but I am a little ahead of him; of course I shall expect to hear of somebody that is ahead of me. I have learned *not to be afraid* of the advertisements in the CO. GENT.

Last fall I sent to Utica and got a peck of said potatoes, gave three or four to a young friend, and planted the rest in my garden the last of April. As Mr. Bacon says, "I never saw more vigorous vines." In July I dug enough from time to time for a *mess*; last week I dug the rest of them, and measured them carefully; had 7½ bushels of large (yet not too large) potatoes. No doubt we used half a bushel in July and August. Eight bushels from a peck satisfies me very well. All that have seen them want some to plant next year.

*Glen Haven, Sept.* 18, 1865. B. J. CAMPBELL.

## Tropeolum King of Tom Thumb.

Last spring I procured of Messrs. J. M. Thorburn & Co., of New-York city, seeds of this novelty, and it was very gratifying for me to see them vegetate, as every one of them which I planted did; and I will take this opportunity to state that all of the flower seeds which I purchased of them, proved excellent, as the large show of superior flowers now in bloom in my garden is conclusive proof. This dwarf Tropeolum is worthy of extensive cultivation; the brilliancy of the flowers and the splendid contrast produced by the blue foliage has been the subject of much praise in my garden this summer; at the present time of writing (Sept. 25th,) my plants are loaded with flowers. They should be planted in a light, fresh loam in a dry situation; if planted where it is damp or heavy the plants will produce a great amount of foliage and but few flowers. O. H. PECK. *Melrose, Sept.*, 1865.

## THICK AND THIN SEEDING.

We need further and accurate experiments to prove the precise amount of advantage which may result from a thicker seeding than usual. Any one who walks across a field of clover and observes bare patches in every part, will be convinced that a loss is sustained from a want of more seed. He will estimate the loss according to the amount of bare surface; in doing so he will invariably make it too small, as straggling plants may cover and hide the earth with a growth not half so heavy and dense as it will actually sustain. For this reason valuable information to every farmer would be derived from a series of experiments with varying quantities of seed, and weighing the products. The quantity of hay raised annually in the United States has been estimated at 20,000,000 tons, worth $200,000,000. An equal amount of pasture would make the whole grass crop worth about $400,000,000. If this annual growth could be increased above its present amount, as three is to two, it would be an annual increase equal to the cost of six or eight such canals as the great Erie canal between Buffalo and Albany. The subject is, at least, worthy of investigation. Our own observations and experiments have satisfied us that, on the majority of farms in this country, a greater increase than here stated could be reached by an addition in cost in seed equal to one-tenth of the increased value. In other words it would be quite safe to estimate the value of this improvement, if generally adopted, at $100,000,000 a year. A series of careful experiments, widely published, would prove a great public benefit. What Agricultural Society or ten individuals will, undertake the task?

But there is another advantage in thickly seeding grass. When the growth is thin, especially if on rich land, it is coarse and harsh, and disliked by domestic animals. This is a chief reason why old pastures are regarded better than new ones. But if closely seeded, the growth will be fine and soft, and the objection will be in a great measure removed.

When we come to apply this reasoning to grain crops, there are other considerations involved. The fineness of growth is not here an object, but large product alone. On land which is poor, or which possesses moderate fertility, strong and vigorous plants cannot be produced. They will not grow so tall, nor branch nor tiller so much. The deficiency must, therefore, be made up with an increased quantity of seed. This is the reason of the fact frequently observed that farmers whose land has been raised to a high degree of fertility, do not find it necessary to sow so many bushels of wheat or oats per acre, as those who possess poor land. It is worthy of experiment to determine where the limit should be in both instances.

In raising grain the amount of the product in seed is alone to be taken into consideration, and hence a thinner seeding for a rich soil may prove the most profitable. But in raising grass a thick seeding is absolutely necessary to give a fine quality to the fodder.

**Seedling Grape.**—We have received from Mr. B. GATES, New-Lebanon, specimens of the "Mount Lebanon" seedling grape described by WM. BACON, Esq., on another page of this paper, for which he will please accept our thanks.

## CLOTHE THE BOYS.

MESSRS. EDS.—I have often thought of speaking a word for the boys, and as bleak autumn draws near it reminds me of past observation and experience. Well do I remember of driving cows frosty mornings without shoes, and how my little feet did ache with cold. I would get my hands full of stones, and run for a large white flint stone, and stand on that until I had stoned the cows along; then I would run for another; and every year of my life I am reminded of it, as I am traveling around in the late fall, and seeing boys bare-foot with their worn-out summer clothes on, shivering with cold. I have many times wanted to say to parents and guardians of such children, do you not know they must be cold, and are contracting rheumatism and debility, and that they have not the warm life-blood of a full-grown man teeming in their little veins to keep them warm?

Had I a boy put out, I would rather he would go to his daily toil half fed, rather than half clothed. See to it, you that have the care of children, that they are well clothed in woolen garments ere the cold weather begins, for the first cold weather is felt the most by us all.

Now I do not wish to interfere with the private affairs of any family, but I do feel keenly the necessity of clothing up the boys for winter sooner than they usually are; for the future destiny of this country depends much, very much, upon the rising generation, and if by writing these few lines, I can be the means of saving one poor boy a cold berth, I shall feel well paid; beside I know I shall receive the silent thanks of every boy that feels the keen and searching blasts of autumn. L. F. SCOTT. *Bethlehem, Ct.*

## How to Destroy Sheep Sorrel.

In one of your numbers a few weeks past, my attention was directed to an article on the destruction of the Rumex aceoscella or sheep sorrel, and the remedies enumerated to accomplish the object.

A few days since, while leisurely traveling along the beautiful valley through which the head waters of the Hudson pursue their ever varying course, I was in many instances unpleasantly impressed by the abundant appearance of this pernicious vegetable product in the meadows on either hand. In many extensive tracts of land, stretching for miles along the river's brim, entire fields presented a deep reddish-brown aspect from its profusion of growth, and among which the Oxalis stricta also frequently were seen to occur—another extremely acid plant. This led me for a time to reflect on the subject, in order to assign a probable cause for this profusion of growth, and the effects thus produced; and soon after—upon a closer inspection of the soil—came to the conclusion that it must proceed from an extreme acidity of the land upon which they grew. Common sense at once suggested the simple remedy, an alkaline substance; and among the materials, lime alone the article sufficiently capable of accomplishing the object desired.

Lime is not a fertilizer, as is generally supposed, but an ameliorator of the soil, neutralizing any acidity it may contain, and properly preparing it for the reception of the most appropriate manures. J. E.

THE CULTIVATOR.

ALBANY, N. Y., NOVEMBER, 1865.

**Important Decisions---Taxes of Agricultural Societies.**—Under the last amendments of the Excise Law, some assessors have supposed that agricultural societies, State, county or other, are obliged to pay a license fee for holding their exhibitions, and a tax of *two per cent.* upon the gross receipts therefrom. Col. B. P. JOHNSON, Secretary of the New-York State Agricultural Society, having applied to the Commissioner of Internal Revenue at Washington, for an authoritative decision on the subject, hands us the following reply just received:

TREASURY DEPARTMENT,
OFFICE OF INTERNAL REVENUE,
*Washington, Sept.* 9, 1865.

Sir—In reply to yours of 25th inst., I have to say that as Agricultural Fairs are not held for pecuniary profit to the managers or others, but rather as a means of promoting the agricultural interests of the country, they are *not considered* as coming within the meaning of par. 39 of sec. 79 of the Excise Law, and are regarded as *exempt from license duty.* They are also *exempt from taxation upon gross receipts*, under section 108. Very respectfully, E. A. ROLLINS.
Dep. Commissioner.

B. P. JOHNSON, Sec'y, Albany.

Where, however, *Horse Trotting* forms a part of an agricultural show, the Society is *thereby rendered liable for both the license tax and the tax of two per cent. upon their gross receipts*, as was decided by the Commissioner under date of July 5th, in response to the following letter from an assessor in New-Hampshire:

The "Littleton Fair Ground Comp'y" own a Trotting course and generally have more or less "trots" within the year, charging an admission fee. Their Exhibition in the fall is an Agricultural Show including "Horse Trot." Should they not be required to pay for $10 license, by the terms of Item 39, Section 70, and should they be required to return and pay on their gross receipts the two per centum? See sections 108 and 109. Respectfully yours, B. LOVELL, *Assessor 3d Dist. N. H.*"

Both these questions were answered in the affirmative, thus showing a discrimination in rendering the law, as between *purely agricultural shows*, and those which include the trotting of horses—a discrimination which seems to us entirely just, since when this feature is added for the sake of drawing in a crowd or otherwise, it is proper that the privilege should be paid for. But on what are solely and legitimately agricultural, horticultural and domestic exhibitions, there is *no tax to be assessed.*

**The Great French Exhibition of 1867.**—We have heretofore noticed the inception and progress of the great exhibition to be held at Paris in 1867—really *Universal* in the full sense of that much abused word,—to continue open no less than seven months, or from April 1st to October 31st,—and having the whole wealth and energy of the Imperial government to secure its success, as well as attracting the favorable co-operation of civilized nations throughout the world. The official correspondence of our Minister at the French court, on the subject, has just been published by the Department of State, to which we are indebted for a copy through Col. JOHNSON of this city. This includes the regulations adopted by the Imperial Commissioner, and a ground plan of the proposed building—a structure of elliptical form 490 metres, or over 1,600 feet in longest diameter, by 380 metres, or about 1,250 feet in breadth. In the park around this building accommodations will also be supplied for the exhibition of animals, plants, and objects which cannot be received within it. The design literally embraces the whole field of human industry. That part of it in which our readers are especially interested, includes all products of agriculture, of the forest, fisheries, &c.; the cereals and edibles of every kind; models of farm buildings; agricultural machinery of all sorts; all breeds of animals, even to dogs, insects and fish; hot-houses and horticultural materials; flowers, ornamental, hot-house, kitchen-garden, and fruit-producing plants; models of dwellings, etc., etc. It is difficult to see how the schedules could well be made more comprehensive.

Notwithstanding the United States were backward in exhibiting at the two previous French Expositions, the Commission has this year allotted us liberal space, and it is greatly to be hoped that our inventors and others will be prepared to occupy it. In 1855 about 1,100 square metres were set apart for us, of which not quite 300 were filled; in 1862, we had 843 assigned to us, but owing to the war less than 100 were occupied. The space assigned us for 1867 is not quite 2,800 square metres. Our minister, Hon. JOHN BIGELOW, expresses the opinion that if "the proportions which this Exhibition is destined to take in the eyes of the world," were as fully appreciated in America as they are throughout Europe, the difficulty would be to confine our contributions to the allotted space, rather than to secure enough to fill it decently. He points out that commissions of scientific men, agriculturists, manufacturers, mechanics, &c., are to be appointed in France and other European countries, to examine thoroughly each in his own department, the various classes of the Exhibition, and to report thereon for the benefit of their countrymen engaged in similar pursuits; and he wisely suggests that similar action should be taken here, in order that we may best avail ourselves in the several branches in which we are most concerned, of every step of improvement accomplished by other nations. "In making choice of men for this labor," he adds, "our academies of art and design, our agricultural societies, our mechanics' institutes, and other literary and scientific societies, might be consulted to advantage." Those who could most usefully be present in such capacities, would not be the persons acting as agents or exhibitors themselves, but "men, who by their knowledge and accomplishments, are qualified to describe in popular language the novelties with which the Exposition may abound. It is from the labors of such men as these that the country ought to derive its chief advantages from such an Exposition."

**Grapes from President Wilder.**—We are indebted to M. P. WILDER, President of the American Pomological Society, for a box of Rogers' Hybrid grapes, including eleven of the best sorts, and specimens of the Concord and Diana, grown under similar circumstances, for comparison. The specimens received were Nos. 1, 3, 4, 9, 15, 19, 30, 41, 43, 44 and 45. We called in the assistance of friends and tasted them in rotation several times. The vote was in favor of 44 (black) as the best in quality—41 was very similar—19 and 43 were regarded hardly so good, and 45 rather poor. No. 4, although much the largest grape (being equal in size to the Union Village) was not equal to the best in flavor. Its large size, however, and showy appearance, may render it valuable for market. These six are all black, and two or three of the best, say 4 and 44, or perhaps 19 or 41, will fitly represent all the black varieties. Of the red sorts, No. 30, appeared to be a general favorite—15 stood next—No. 9 and 3 were rather inferior, and No. 1, although free from pulp, was too watery and insipid. There is much similarity in all the black grapes, and also in the red ones, but the black ones were generally preferred. No. 44, as well as most of the other black ones, on being compared with the Concord, were regarded as decidedly superior. All, however, were quite inferior to the Diana.

☞ The volume of the Transactions of the New-York State Agricultural Society for the year 1864, is now in course of distribution. The account of the Annual Fair at Rochester is fuller than usual. In live stock it records the principal exhibitors, which, next to a condensed and accurate transcript of the entries, is the best way of illustrating the premium list, by showing what competition the successful exhibitors encountered. In the notices of the Implement Show, which was very full and interesting, the principal machines exhibited are referred to with brief descriptions setting forth their peculiarities and the merits claimed for each; and to this feature we refer thus prominently because it is not only valuable as a matter of history and reference, but for the reason that it affords additional inducements to inventors and manufacturers to be present—since, beyond the publicity afforded by the occasion itself, the record here given remains permanently accessible to the farmers of the State. Thus among Reapers and Mowers alone, not less than twenty-one machines are briefly described.

Next we have a supplementary report from the Wine Committee, L. F. ALLEN, chairman, containing facts and suggestions which should receive the attention of those who experiment in the manufacture of native beverages either for sale or domestic consumption. The reports of the evening discussions during the Fair, and the addresses delivered at its conclusion, have been previously published in other forms.

The question whether dairymen should breed and rear their own cows, is treated at some length by Mr. L. F. ALLEN, whose experience and good judgment entitle his views on the subject to great weight. It need hardly be said that he ably advocates the affirmative, although expressly admitting in the outset that "no positive rule can be made to govern every individual action in any one branch of business, particularly in agriculture." The object of the dairyman being to secure the animal most likely to produce the largest valuable return in proportion to food consumed, the article includes a description of the best dairy cows, as well as the manner of obtaining or breeding them—in-and-in breeding, the "best breed" for the dairy, the hardihood of the foreign breeds, &c.

Dr. FITCH's address at the last annual meeting gives the results of his researches on the Hop insect (*Aphis humuli*,) and the remarks of J. A. WARDER of Ohio, include some of the leading conclusions reached by the Flax Commission of the United States Agricuitural Department on the treatment of this fibre for economical purposes.

Judge DENNISTON of Steuben, contributes a full and instructive account of the Grape culture now so rapidly extending in that county—including not only out-door cultivation, and the varieties tested, but also the modes of wine-making adopted. From this we gather that although there are newer sorts of promise, the Isabella and Catawba—especially the *latter*—are still the standard vineyard kinds.

Judge Denniston also reports the agricultural statistics of Steuben for 1864—the only county so reported—from which we learn that the wine manufacture of the year was nearly 38,000 gallons, over 36,000 of which were in the town of Urbana alone. The value of this wine is stated at $112,829. A careful estimate is given of the money value of all the other agricultural products of the county, in a classification the different heads of which are of sufficient interest to transcribe them here:—

*Estimated Value of the Agricultural Products of the County of Steuben for* 1864, *from Statistics collected by Hon. G. Denniston.*

| | | |
|---|---|---|
| Products of grass land, pasture, hay and seeds, | | $2,146,174 |
| Cereal crops, | | 2,027,824 |
| Root crops and peas and beans, | | 427,537 |
| Commercial crops, flax, tobacco, hops, honey, maple sugar, &c., | | 139,579 |
| Fruits, wine and market gardens, | | 272,050 |
| Dairy—butter, cheese and milk, | $1,199,688 | |
| All other animal products, | 2,099,971 | |
| | | 3,299,659 |
| Total, | | $8,306,823 |

Owing probably to typographical errors, Mr. Denniston's total does not agree with the items he specifies, which will account for the variation between the above aggregate and his.

Returns to circulars asking information as to the condition of agriculture throughout the State, and the average yield of the crops of 1864, were received from only eighteen counties, although the inquiries were sent to all. They generally report progress in farming, although in some cases the improvement is not very decidedly affirmed.

We have thus hastily glanced at some of the leading articles in the present volume, and can heartily commend it as a whole, to the attentive perusal of the agricultural community. Among a limited number of extracts are an article from Dr. Voelcker on Cheese Making, from the Journal of the Royal Agricultural Society, the continuation of Lawes & Gilbert's Report on Experiments with different Manures on permanent Meadows, from the same source, and papers on the rearing and treatment of calves and young stock, from the Scottish Society's Transactions. The usual abstract of the proceedings of local societies closes the whole.

**American Herd-Book.**—The editor of this work, LEWIS F. ALLEN of Black Rock, has issued a circular with a view to the publication of the Seventh Volume—it being nearly three years since the appearance of the Sixth. We need scarcely express our opinion of the value of this work, and the importance of sustaining it; and shall endeavor to make room for the circular at length, as soon as possible.

**Mr. Stone's Sale of Stock.**—We learn from the Guelph Mercury that this sale, which took place on the 4th inst., was well attended by breeders from a distance, as well as those in the immediate neighborhood. Many of the leading farmers of neighboring counties were also on the ground. The attendance of buyers was large, and the competition keen on some animals. The prices realized for cattle averaged about the same as last year and sheep sold considerably higher.

**Another Short-Horn Bull gone to England.**—Mr. CORNELL writes us that his herdsman, John Watts, sailed on Saturday, with the "3d Duke of Oxford," for Mr. C. M. HARVEY, Walton on the Hill, near Liverpool.

**Fast Trotting.**—One of the few places where the trotting of horses is carried on under its own name, and not under the alias of a "a trial of speed," or the misnomer of an "agricultural fair," is at the Fashion Course on Long Island. The papers state that on the 10th inst. the gelding Dexter, owned by Hiram Woodruff, trotted his mile in 2 minutes 18 1-5th seconds, under the saddle, thus excelling the heretofore unprecedented time made by Flora Temple, of 2:19¾. We have somewhere seen a tolerably full account of Dexter, but it is not now at hand—many would doubtless be interested in knowing something more of his breeding and history.

**Grapes.**—At the American Institute Fair, which closed last week, the following prizes were awarded:

John Dingwall, Albany, N. Y., for the best collection of named varieties of native grapes, 52—silver cup, $15.

David Thompson, Green Island, near Troy, N. Y., for the best seedlings, 12—special $5.

**More Cleansed Fleeces.**—The Ohio Farmer gives the result of eighteen Merino fleeces shorn and cleansed in competition for prizes offered by the Board of Agriculture of that State. Only the gross and net weights of the fleeces are given, with no statement as to age or weight of the animals producing them, and no calculation as to per centage of loss. One of the fleeces entered appears to have contained more wool than came from a single sheep; as to the other 17 we have been at some pains to prepare the following table for the purpose of comparison with other similar trials. We give the list in the order of shrinkage:

| *Owner.* | *Sex.* | *Weight of fleece.* lbs. | oz. | *Cleansed wool.* lbs. | oz. | *Pr. cent. of loss.* |
|---|---|---|---|---|---|---|
| A. P. Read, ..... | —— | 12 | 4 | 5 | 8 | 55 |
| C. Kelsey,..... | ewe. | 10 | 12 | 4 | 9 | 57 |
| H. J. Starr, ..... | do. | 14 | 15 | 6 | 0 | 60 |
| W. H. Cochran,. | do. | 11 | 1 | 4 | 4 | 61 |
| C. Kelsey, ..... | ram. | 16 | 1 | 5 | 14 | 63 |
| I. J. Anderson,.. | ewe. | 11 | 14 | 4 | 4 | 64 |
| do. | do. | 12 | 2 | 4 | 5 | 64 |
| L. L. Sears,..... | ram. | 23 | 1 | 8 | 3 | 64 |
| E. Keller, ..... | ewe. | 14 | 6 | 5 | 0½ | 65 |
| T. Gorby, ..... | ram. | 24 | 4 | 8 | 2 | 66 |
| T. Jamison,..... | do. | 20 | 12 | 6 | 13½ | 67 |
| E. Matchem,.... | do. | 13 | 4 | 4 | 6½ | 67 |
| J. Birchfield, .... | do. | 21 | 11 | 6 | 13½ | 68 |
| C. Kelsey,..... | do. | 20 | 8 | 6 | 10 | 69 |
| C. Stoolfire,.... | do. | 15 | 8 | 4 | 7 | 71 |
| H. J. Starr, ..... | do. | 21 | 15 | 5 | 11½ | 74 |
| T. Jamison,..... | do. | 22 | 14 | 4 | 7 | 80 |

The average loss in cleansing the whole 17 fleeces is within a minute fraction of 65¼ per cent., which is nearly 3 per cent. higher than on the fleeces shorn at Canandaigua, and 4 per cent. higher than on those tested at Jonesville, Mich. The averages on these three trials are:

| | *Weight of Fleece.* | *Cleansed Wool.* | *Per cent. loss.* |
|---|---|---|---|
| Michigan—10 fleeces,.... | 12.40 lbs. | 4.70 lbs. | 61.5 |
| New-York—14 do. .... | 12.63 | 4.61 | 62.7 |
| Ohio—17 do. .... | 16.89 | 5.61 | 65.5 |

This illustrates a point which we suggested in our first remarks on the Canandaigua test—namely, that the heavier the fleece, the smaller the proportion of the wool it contains. Thus the average weight of fleece in the Ohio trial was about 4½ lbs. greater than in Michigan, but of this 4½ lbs. not one-fourth part, only 14½ ounces—was *wool*. Now if we could get at the cost of the extra feed by which these additional four pounds were put on, we should be able to know whether it was repaid by the value of the one pound of wool gained. The rule alluded to may be also traced in the above table, as follows:

| | | | | |
|---|---|---|---|---|
| First six fleeces, average | 12 lbs. | 13 1-6 oz. | 60 per cent. loss. | |
| Second six do. | do. | 17 | 15½ | 65½ do. |
| Last five do. | do. | 20 | 8 | 72½ do. |

Since the above was in type, we have received a letter from W. F. GREER, Esq., a member of the Ohio State Board, calling our attention to the fact that the figures were published by the Secretary without note or comment, merely to gratify public curiosity as to the actual returns made, while the Committee having the matter in charge, are to prepare their report with fuller details, and such remarks as they deem proper, at an early date. It is possible that our calculations above given will be found subject to trifling corrections when more carefully carried out, but we believe them to be substantially accurate as they stand.

**Rogers' Hybrids and other Grapes.**—We have received from JOHN DINGWALL of this city, a fine collection of Rogers' new varieties, including Nos. 1, 3, 9, 14, 30, and 32, among the red or brown varieties, and Nos. 2, 19, 41, and 44, of the black ones. After trying them side by side, Nos. 1, 19, 41, and 44, appear to possess superior quality—the first is the most distinctly exotic in its character*—Nos. 19 and 44 are certainly better in flavor than the Concord,—an opinion, however, in which some intelligent cultivators differ. We did not find in this collection No. 15, which is certainly one of the best. On the other hand, Nos. 2, 14, 30, and 32, do not possess so much merit.

Some grape cultivators still entertain doubts of the high value which others have set on the Rogers' Hybrids. None of them are nearly equal to well ripened Rebeccas, Dianas, or Delawares—but some of them at least are worthy of farther attention and trial. Many of them too nearly resemble each other to be retained separately—and Nos. 1 and 15 among the reds, and 19 and 41 among the blacks, would fitly represent the whole.

Since making the preceding examination, we visited the grounds of J. Dingwall, and saw these and many other varieties of the grape in bearing. The Adirondack bore this season, and ripened as early as Hartford Prolific—the Iona ripened with the Delaware. Allen's Hybrid, which in previous seasons grew and bore fine crops, is badly mildewed now, the present year being remarkable for the prevalence of this disease. This, the Adirondack, and in fact nearly all other sorts, are laid down in winter, consequently the degree of exposure they will bear, has not been determined. The Crevelling is highly esteemed, and is found to mature before the Delaware. As a proof of the good culture the grape here receives, many young vines of the Delaware, raised from single eyes in March, were now growing in open ground, with stout, thick vines, eight and nine feet long. Cultivators are learning that the Delaware is dwarf in its habit only when neglected. It will not bear the rough treatment under which the Clinton and Concord will thrive. The Northern Muscadine, Dracut Amber, and Perkins, all varieties of the Brown Fox, bearing side by side, exhibited the character and comparative value of each. The Northern Muscadine is darkest colored and best in quality; the Dracut is nearly the same color, and slightly inferior; the Perkins much lighter than either, and quite poor. The Louisa, which so nearly resembles the Isabella, cannot at first be distinguished from it, but near maturity, a difference in flavor is perceptible. Still, it is not worth while to keep up the culture and name of such varieties as this, the Guarrigues, Hyde's Eliza, Payn's Early, Hanson's Early, and others, which so nearly resemble the Isabella, their origin. Canby's August, well known as a synonym of Black German, J. Dingwall asserts is very nearly if not identically the same as York Madeira.

The owner of these grounds cultivates small fruits and ornamentals with much success, and the visitor can hardly fail to find objects of interest.

**Canada West.**—A correspondent of the Rural New-Yorker, Mr. PETERS we presume, writes to that paper that the Provincial Fair, lately held at London, C. W., was as usual a success. As to the show he says:

"Going directly from our State Fair, I was enabled to make a pretty close comparison. In the aggregate it was quite equal to the Fair at Utica. In cattle it exceeded ours, both in quantity and quality. The judges pronounced the ring of cows in the short horn class unsurpassed by any in this country. There were some splendid specimens in each of the other departments. In coarse wooled or mutton sheep they were a long way ahead of us; better sheep I never saw. In swine and poultry they excelled us. Their horse department did not come up to ours. The dairy was fair. Domestic Hall was well filled. In implements the show was not large, but in harrows and cultivators they beat us, and some of each kind might be profitably introduced here. The Plowing Match was a sight to behold. Think of some 80 or 100 teams and plows competing, both boys and men. And such work! Few of us take the pains we ought in plowing. It would do our boys good to attend a Canadian plowing match."

The Canadian plowing matches are certainly worthy of emulation here.

* The vine of this variety has much of the appearance of the foreign grape, and with us it has mildewed most.

**Indiana State Agricultural Fair.**—The Fair of the Indiana State Board of Agriculture was held at Fort Wayne on the 3d and several subsequent days of the present month. Fort Wayne, as is well known, is a new and thriving city of some 18,000 inhabitants, in the northern part of the State, at the intersection of the Toledo & Wabash and Pittsburgh & Chicago railway. The lot selected and fitted up for the occasion was half a mile from the city, and embraced 50 acres, on a fine, gently undulating piece of ground, containing some fine shade trees on its remote side, where it was traversed by a refreshing stream of water. These grounds were all arranged and handsomely fitted for the reception of articles and animals. About 20,000 persons were in attendance each day, as indicated by the number of tickets sold, and the receipts were satisfactory.

The exhibition of agricultural implements and machines was one of the best departments of the fair, and was made up of contributions from a large number of manufacturers. Mowers and reapers, threshing machines, grain drills, steel and cast iron plows, cultivators, portable frames for sustaining horse-forks for stacking, farm engines, wood-sawing maches, both cross-cut and circular, were well represented. A corn-planting machine, dropping in rows both ways, and planting fifteen acres a day with the assistance of a man and boy, we were assured by some who had tried it, had succeeded well. A peculiarity of western fairs, the exhibition of several excellent sorghum mills and evaporators in actual operation, mostly converting the fresh juice to molasses in half an hour, was an interesting part of the exhibition.

The collection of farm products was a good one. Some of the Goodrich potatoes were presented from several sources—showing the wide dissemination of these valuable varieties—although none of the newer and most valuable sorts were seen, as the Early Goodrich, Calico, and Gleason.

But few domestic animals appeared on the grounds. Sheep and poultry were in moderate numbers, and very few cattle were seen, a few good Short-Horns constituting the whole. Several large herds were expected from a distance, which induced the nearer cattle owners to omit exhibiting.

The exhibition of apples was a fine one, consisting of many good collections. With little exception they were large, fair, free from defects and correctly named. The show of pears was small—that of grapes rendered more interesting by contributions of Iona, Israella, Adirondack, and other sorts, from Dr. Grant of Peekskill and J. W. Bailey of Plattsburgh, N. Y., J. Knox of Pittsburgh, W. Heaver of Cincinnati, &c. The fine Concords from Pittsburgh, were unusully fine, being decidedly better in quality than those raised in New-York and Massachusetts, and the Herbemonts, in large compact shouldered bunches, six or seven inches long, were excellent. Two collections of American wines were presented for examination—from the California company, and from Mottier of Cincinnati. The first was found by analysis to contain about sixteen per cent. of alcohol, while in the latter it did not exceed nine per cent. The latter received the premium.

The evenings were occupied with discussions on fruit culture, under the auspicies of the Indiana Horticultural Society.

On the evening of the 3d inst. a party of forty or more, consisting of the officers of the State Agricultural and Horticultural Societies, and others, visited by a special train the residence of I. D. G. NELSON, about four miles distant, and had an opportunity of examining the fine grounds, orchards, &c., by moonlight. The citizens of Fort Wayne extended them hospitalities freely, and exerted themselves to make the occasion a satisfactory one. The only objection we had to make to the arrangment was the admission of catch-penny shows of a low character, and gambling tables, which should have been suppressed both by the society and city authorities.

**Ohio State Fair.**—From the Ohio Farmer we condense the following statement as to the success of this Show, which took place at Columbus, Sept. 12–15th:

"The show of cattle of the Short-Horn breed, was better than we have anywhere seen since the great show at Dayton in 1860, when the prize herds of Ohio, Kentucky and Indiana, so stoutly contested for the palm of excellence. * * * The quality of those on exhibition was of marked excellence, and there were enough in number to show that we have the means among us to bring up, within a few years, an interest which in former times was the pride and glory of Ohio, and which contributed in a great measure to the solid wealth of the State.

"As was to be naturally expected, the sheep department was filled with a numerous and notable host, showing the progress which our wool-growers are making in the production of one of the greatest staples of domestic consumption. * * Besides the main feature of fine wooled sheep, there was a handsome show of South-Downs, and a still larger show of Cotswolds and Leicesters, and a few Shropshires. The raising of these latter breeds of sheep ought to attract more attention than is at present bestowed upon it in this country. The increasing demand for this sort of wool, and the greatly increasing demand for mutton, in connection with the special adaptation of pasturage and markets in certain localities, point to this as a profitable branch of neglected husbandry. The growing of these sheep, though considerably on the increase in Ohio, is still far behind the greater increase of demand. Large wool growers can probably do better with fine wooled sheep. On the whole, we believe there has not been a better show of sheep at any State Fair in the country, than was exhibited this year at Columbus."

The show of implements was also good, and the attendance of visitors excellent.

**The Agricultural Department.**—The Maine Farmer justly says, in harmony with the univeral expressions of opinion:

We see it stated that James S. Grinnell, Esq., for the past three years the able Chief Clerk of the Department of Agriculture, and to whom the Department chiefly owes what it is, and what it has accomplished—has been removed from his position by Mr. Newton, and a nephew of the Commissioner appointed in his place. We are acquainted with Mr. Grinnell, with his unwearied labors in behalf of the Department, with his peculiar fitness for the responsibilities of his position, and are satisfied he could have been discharged only for over zeal in the performance of his duty. A man better fitted for the sitnation, we do not know, and his removal is a gross injustice to the farmers of the country at large—who, so long as Mr. Grinnell was connected with the Department, were sure it had one man of some executive ability and knowledge of the wants of the people connected with it—and another evidence of the incompetency of the Commissioner and the policy of favoritism upon which its affairs are conducted.

**American Institute Mowing-Machine Trial.**—The judges appointed at the great field trial of mowing-machines, held at Hunt's Bridge, July 25 and 26, have awarded the gold medal of the society to the Buckeye mower, built by ADRIANCE, PLATT & CO., Poughkeepsie, and No. 165 Greenwich-street, New-York, the many severe tests to which the various machines were subjected having developed so many points of excellence and superiority in the "Buckeye," as to fairly entitle it to this award.—*New-York Times.*

The potato disease has made its appearance to a limited extent in several parts of Scotland.

## Inquiries and Answers.

**Grasses and Weeds.**—Would you or some of your correspondents give me information respecting the enclosed wild grasses—their botanical and common names, and the best mode to extirpate them. My lawn and slopes are completely overrun with them. The soil is in splendid condition; but recently laid down with red top and white clover. They have not made their appearance till this autumn. The one marked B. is a most spreading and noxious grass, and cannot be mowed either with scythe or machine; on account of its extreme wiry texture, the scythe can do nothing with it, and the mowing machine cannot cut it clean owing to its disposition to spread. What I want to know is, will it run out if I can prevent its running to seed, which seems almost impossible from the reasons assigned. I have been at great expense and labor in bringing my grounds into a high order of culture, and and it seems hard that I should have to break them up again in order to extirpate these unfriendly visitors. The grass marked B. some people call hog grass; the other, marked C., they call wild timothy. You will be good enough to tell me their right names, and a few remarks as to the mode to be pursued in banishing them from the land. They never made their appearance till the beginning of August. Whether it would be feasible to top-dress it with a coat of lime this autumn? A SUBSCRIBER. [The two specimens sent were the *Digitaria glabra* and *Setaria glauca*. They are both common weeds, the latter especially, which is frequently known as fox-tail grass. The best way to eradicate them is to enrich the surface with fine compost or manure, sow grass seed very thickly, or at the rate of a bushel or two per acre, and when it has fairly started keep it mowed down within an inch or two of the surface. The weeds will gradually work out.]

**Fruits for the South.**—Will you please give me the following information: What are the names of five of the *most approved and excellent varieties* of winter apples, such as will keep during the winter; the finest size and the best? The name of the five best varieties of fall and winter pears? The name of the five best varieties of the *earliest and best freestone* peaches? The name of some honest nurserymen where I can buy the *genuine* article—I want standard trees—some party who has a nursery not far from Philadelphia, New-York city or Boston? My reason for troubling you with these questions is, that I have a small place near this city, which I desire to turn into an orchard. At what age do standard apple and pear trees usually bear? C. S. M. *Richmond, Virginia.* [The many varieties of fruits have not been sufficiently cultivated at the South to enable us to determine those best adapted to that region. The following approximate list therefore may perhaps be considerably improved on a further trial. *Apples*—Nickajack, Ben Davis, Rawles' Janet, Hall, Jonathan. *Pears*—Bartlett, Seckel, Belle Lucrative, Winter Nelis, Easter Beurre. *Peaches*—Hall's Early, Early Tillotson, Serrate, Early York, Cooledge's Favorite, Large Early York. We consider the Nurserymen who advertise in our columns as strictly reliable; among them we may name Buist & Co. of Philadelphia; Haines & Hacker, Cheltenham, near Philadelphia, and Parsons & Co. of Flushing, Long Island, near New-York. There are several others we might add equally as good, but these will be sufficient. The age at which apples and pears first bear, varies usually from three to six years.]

**Ground Bones—Winter Pears.**—Will you have the kindness to tell me through THE CULTIVATOR if bones ground up would be suitable manure for wheat and corn; and if so, then in what quantities, and in what way should it be applied? Also what would be the best winter pears for this latitude, say 50 or 60 miles south of Washington? I have read of the Lawrence having a high reputation. Is it surpassed by any others? Is there a late edition of Thomas' Fruit Culturist? H. B. HEWITT. *Falmouth, East Va.* [Ground bones are a good manure on most soils for all crops, but they have the most effect on the turnip. Their effects last many years, especially if not ground very fine. They may be spread and harrowed in when convenient at the rate of half a ton per acre, more or less. The Lawrence is one of the best early winter pears in the North, but whether it would succeed well for the South can only be determined by trial. The Winter Nelis, although not so sweet a pear, is higher flavored. The tree is a crooked grower and an abundant bearer. Jones' seedling is a small, new, winter sort, of high promise. Prince's St. Germain is a good pear, although somewhat neglected of late. There is no late edition of Thomas' Fruit Culturist, although one may be issued another year.]

**Three Story Barn.**—Where can I go and see a three story barn, the *best* in arrangement, &c., of suitable size for a farm of 300 acres? I intend building in the spring, but want to get my bill of timber now. *J. B. H.* [Our correspondent will find a figure and description of a three story barn on page 138, vol. 3, of RURAL AFFAIRS. The plan may be modified according to circumstances and preferences. We know of perfect structure of the kind to recommend, but many three story barns are found in the farming region about Philadelphia.]

**Conveying Water.**—I desire to carry water about 1,000 feet, from a spring to my house, at a fall of from one to two feet in the 100 feet. Why can't I use hard burned drain tile, cementing the joints? There will be no pressure on the pipe, as the water runs into a cistern, and from that by lead pipe to the house—length of lead pipe say 100 feet. H. *Morris Co., N. J.* [The course to be adopted will be modified by circumstances. If the quantity of water is small, and the soil porous, much of it may be lost during the dryest part of the year, by being absorbed by the tile, and then by the soil. Hence in such case it would be advisable to lay the tile in water lime cement, and cover it with the same, so as to form a water lime tube outside the tile. But if the soil be clay and the quantity of water large, the escape of a part of it by absorption, would be little detriment.]

**Culture of Orchards.**—I have a young orchard, the the trees about eight years old. Would it injure the trees to sow clover or timothy? Or would it be better not to cultivate at all, but plow once or twice during the summer? J. M. L. *Lealand, Tenn.* [If the soil is fertile the grass will not probably injure the trees—indeed there may be cases where impeding the growth will prove an advantage. On poorer soils constant cultivation will be important. As rich and poor are only comparative terms, a distinct index or guide may be found by observing the length of the one year shoots; if they are less than a foot or a foot and a half in length, they are making quite moderate growth, and should not be impeded by grass. If on the other hand they are growing two and a half or three feet yearly, retarding may be useful.]

**Ice House.**—Can you give, in your Co. GENT., the best mode of constructing a family ice-house, with an adjoining apartment for keeping milk, fresh meats, preserves, &c.? D. [There are some difficulties in the way of connecting ice-house and milk room, which we have never seen entirely overcome. A thin wall between them causes melting rapidly; and a thick, non-conducting wall excludes the cooling influence of the ice. Cold does not pass horizontally so well as downward; ice placed in an apartment overhead will cool the air below rapidly, if the floor is thin or a good conductor, as of sheet iron, but the ice will soon melt away if thus exposed. We have no doubt all these difficulties might be overcome; and if any of our readers will furnish us a description of a successful contrivance of the kind, it will be acceptable.]

**Warts on Cows' Teats.**—I have a cow that is troubled with warts, very bad on her teats. Any remedy through THE CULTIVATOR would be thankfully received. W. E. C. *Liv. Co., N. Y.* [A correspondent recommends washing the teats with strong salt and water, night and morning, after milking, and if the warts are large, trimming them off with a sharp knife.]

**Early Potato.**—What kind of early potato is preferable to plant for market, the quality of the potato and productiveness considered? J. C. W. *Orange, Mass.* [Goodrich's Early, seems to be the favorite this season. If any one knows of a better variety, we shall be pleased to hear from him.]

**Agricultural Encyclopœdia.**—I want an Agricultural Encyclopœdia—something that will give, in brief, descriptions of all kinds of grain, vegetables and fruits—time for planting and ripening—mode of culture—kind of soils and manures best adopted to each, &c. Is there any such work? L. W. *Washington, D. C.* [We know of no such work.]

**Books on Bees, Poultry and Fruits.**—Please inform me what are the best works on Fruit, Bees and Poultry? J. T. *New Hamburgh, N. Y.* [Downing's last edition is the best work descriptive of varieties; Barry's Fruit Garden for pruning and training. Quimby and Langstroth are the best works on the bee. Bement's Treatise on Poultry is one of the best.]

# 1866 THE ILLUSTRATED ANNUAL 1866 REGISTER OF RURAL AFFAIRS.

## NO. TWELVE FOR 1866.

This publication, which has been so long before the public, and met so uniformly with a favorable reception, is now nearly ready for the coming year. It will contain, as usual, about

**One Hundred and Thirty Engravings,**

And its Contents, aside from the usual Calendar pages, presenting calculations for northern, middle and southern parallels of latitude, will be found as fresh and varied as those of its predecessors, in the value of the information presented and the amount condensed within its limits. It is sent by mail, postpaid, for

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I.—MONTHLY CALENDAR, for the Kitchen-Garden, Flower-Garden, and Green-House.—FIFTY ENGRAVINGS.
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2. February—Starting Vegetables—Varieties—Training Exotics.
3. March—Asparagus—Lawns—Laying Turf.
4. April—Garden Preparations and Labors.
5. May—Insects—Sweet Corn—Annual Flowers.
6. June—Weeds, Tomatoes, Bulbs, &c.
7. July—Memoranda for the Month.
8. August " do do
9. September do do
10. October do do
11. November—Care of Roots—Shrubs, Winter Preparations.
12. December—Memoranda for the Month.

II.—THE TIMBER CROP—TEN ENGRAVINGS.
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2. Setting out for Screens.
3. Thinning Natural Plantations.
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1. Comparison with Fine-Wooled Sheep.
2. The English Breeds.
3. Making a Beginning.
4. Raising Market Lambs.
5. Production of Wethers for Feeding.
6. Feeding Mutton Sheep for the Butcher.
7. Mutton Sheep crossed with Merinos.
8. Mutton Sheep as Wool Producers.

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3. Circular Flower-Bed.

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VIII.—THE DAIRY—ONE ENGRAVING.
1. Rules for Winter Feeding Cows.
2. Short Hints and Suggestions.

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1. Field Culture of the Onion.
2. Raising Vegetable Seeds.
3. New and Desirable Flowers.
4. Essential Points in Flower Culture.

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1. A Few of the Newer Pears.
2. Training Grapes as Pyramids.
3. Pears for General Cultivation.
4. A Profitable Orchard.
5. Apples, Grapes, Strawberries, &c.
6. Horticultural Brevities.

XI.—RURAL ECONOMY—WITH NUMEROUS ENGRAVINGS.
1. Winter Evenings for Farmers' Boys.
2. What Shall Farmers Do?
3. Haynes' Portable Fence.

*** Several other valuable articles under this and cognate heads

The orders received in advance of publication for the ANNUAL REGISTER for 1866, are larger than ever, and it will meet a ready sale by agents, nurserymen, implement dealers, newsmen, and others, who may obtain terms in quantity by addressing the Publishers. Agricultural Societies will find it an excellent work for use as premiums and gratuities to members. It will be ready for sale early in November, when it may be ordered by mail or express from

LUTHER TUCKER & SON,
ALBANY, N. Y.

*** The previous Numbers of the ANNUAL REGISTER, with the exception of Nos. 1 and 3 for 1855 and 1857, may also be had in paper covers at 25 cents each, or at a reduction when purchased in quantity. COMPLETE SETS bound, are also supplied on *large and finer paper*, in 4 vols., muslin, containing over 1300 pages and about 1500 engravings, by mail, postpaid, for $6. Three of these volumes are now ready, and the fourth, including the *Annual Register for* 1866, will be published in December. They are sold separately or together at $1.50 each.


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## EXPERIMENT ON SIZE OF HIVES.

GENTLEMEN EDITORS—It will be recollected by your readers, that last season I proposed the trial of bees in hives of larger and smaller sizes, by way of experiment. I gave the result of the last year's experiment, in two hives, one of nearly 2,000 cubic inches, in which a swarm was placed June 12th, that gave 28 lbs. surplus and filled the hive half full; and another of 1,200 inches, hived June 14th, that gave 40 lbs. of surplus, and filled the hive. The present season has been unusually poor for honey in this section. Colonies that have swarmed have given but little surplus; most of them, none. From the division of the boxes, making them small and contracting the passage between the hive and the boxes, half of my hives have given me swarms. Among the number were my two trial hives.

The small hive swarmed June 21st. To continue my experiment I placed it in a 1,200 inch hive, or a little less than 1,200 inches. The swarm has filled the hive and given eighteen pounds of surplus in boxes. The old stock gave eight pounds; in the two years, sixty-four pounds from both.

The large hive swarmed June 28th. I placed the swarm in a hive of the same size as the old one—nearly 2,000 inches. It has filled the body of the hive about half-full, and stored about the same amount of honey there that the other has in the body of the hive. Neither the old colony or the new have stored an ounce of honey in the boxes. The old colony gave last year 28 pounds, and filled the body of the hive half-full. Twenty-eight pounds from sixty-four, leaves a balance in favor of the small hives of thirty-six pounds. This, at the rate I sold my honey last year and this, amounts to $12.60; more than enough to purchase two new swarms and one-half of another, at $5 each. At 25 cents per pound it amounts to $9, within $1 of the price of two swarms. The surplus in every box was entirely free from brood-comb, except one small box of four pounds, in which there was a very few cells of brood in the old colony in the 1,200 inch hive. The very small amount of it might seem to indicate that it was rather the freak of the queen, than necessity, that led to the fact.

I certainly should not wish to convey the idea that this experiment settles the question of which size is finally best to establish as a rule, and follow, but I think it authorizes a continuance of the experiment. The swarms last season were nearly equal; both were large nice swarms; both are free from moths, and are fine colonies. The swarms this season were fine swarms, perhaps the last a little the largest. I discover nothing why it is not a fair test thus far. Of the old colonies one has probably 28 pounds in the hive, the other at least 50. The new swarms have probably about 25 pounds each. The large hive is half full of comb. The experiment thus far confirms the views I had previously expressed, as probably facts. One hundred cubic inches will hold a trifle over three pounds of honey, as placed in the comb by the bees. The difference between 1,200 and 2,000 inches, is about 25 pounds, a little more or less, as the bees vary some in building their comb and storing their honey. I think it probable had the room been circumscribed in the central apartment of the large hive to 1,200 or 1,400 inches, twenty pounds of the fifty they have stored for winter, would have been placed in the surplus boxes.

I think it probable that in a hive with one single board for walls, there would be more danger of perishing from cold in the small hive than in the larger one, if filled with comb. Yet it might be questioned whether the sacrifice of ten, fifteen, twenty or twenty-five pounds of surplus annually, is not too high a price to pay for the security afforded. Eighteen hundred cubic inches gives two hundred inches less room than the rule two thousand, and opportunity for six pounds of surplus. Sixteen hundred gives four hundred less, and 12 pounds surplus. Fourteen hundred gives six hundred less, and 18 or 19 pounds surplus. Twelve hundred gives 800 less, and 25 pounds surplus. This results so far as room is concerned. But it is not always certain that these results would follow. I find my bees are rather loth to commence work in empty boxes, when full ones have been removed. But the danger of loss in winter from small hives is much less in those hives that give the protection of double walls to the swarm. Everything taken into the account, I think the experiment deserving further prosecution. JASPER HAZEN.

*Albany. Sept.* 26. 1865.

## HOW TO PICKLE RIPE TOMATOES.

AN OLD HOUSEKEEPER sends her receipt for pickling ripe tomatoes:

Select perfectly firm and smooth ripe tomatoes. Do not let them be bruised or have the slightest break in the skin. Put them into a glass jar. Boil the vinegar with a few whole cloves, allspice, and pepper. When the vinegar is perfectly cold, pour it on the tomatoes with the spice. Cork tightly, and place in a dark cool cellar or closet, but where they cannot freeze.

The Pear, Fig, and Cherry tomato, either red or yellow, make the best pickle if wanted for garnishing.

The vinegar must be pure and not *too* strong.

## COOKING POTATOES.

EDS. CO. GENT.—I see in your paper, a request to know how to cook potatoes, that the centres should be done before the skins crack. Peach-Blows are better steamed, but when that is not convenient, the inquirer will find all difficulty obviated by putting them on the fire in cold water, with a little salt, say a small handful.

A SUBSCRIBER.

## CURE FOR DYSENTERY.

MESSRS. EDITORS—Please publish the following remedy for dysentery. We have no hesitation in saying that in nine cases out of every ten, a cure will be effected:

Take 1 pint new milk, 1 oz. sheeps' tallow, and 1 gill good brandy or blackberry wine—put all together in a vessel, and make scalding hot. Take about one half, as hot as can be drank. The balance in about two hours after if needed. Try it—it can't do any harm.

*California, Pa.* D. SHALLENBERGER.

## BILIOUS CHOLIC.

Place the patient's feet in warm water as soon as possible after taken with this painful and dangerous disease. Apply stimulating liniment to the surface. If no liniment is at hand, in its stead apply flannel cloths wrung out of hot water, or where some sweating herb has been boiled, and give the patient one tablespoonful of sweet oil, once in ten minutes, until relief is found. It seldom requires more than the third dose. A HOUSEKEEPER.

**Hog Cholera.**—From several sources, says the Prairie Farmer, we learn that this destructive disease is again raging in many parts of the West. The amount of pork annually lost from this disease is immense, and would hardly be credited by those not well informed upon the subject. Although it has attracted the attention of medical men somewhat, yet none seem to have learned much concerning its cause or cure. It goes through a herd or neighborhood almost without check. Light is wanted. Has anybody a clue? If so, let us have it for the benefit of the afflicted.

## THE KITTATINNY.

**What is said of it, and who says it.**

Size of berry fully equal, but rather larger (than Rochelle) dec dedly sweeter, and an acquisition to this class of fruits. *I consider it the best Blackberry I have yet seen.*

CHARLES DOWNING.

I believe it to be the *best* blackberry I know of, and shall take the greatest pleasure in recommending it to my friends.

WM. S. CARPENTER.

Berries longer and more irregular than New Rochelle; we measured several an inch and a half long, and three inches in circumference, small seeds, juicy, sweet, with a true blackberry flavor. The fruit possesses the great advantage that it does not need to be overripe in order to be eatable, but while still hard enough to send to market, it is sweet and fit for the table. It is very hardy and a great bearer, and ripens gradually through a period of 6 or 8 weeks. AM. AGRICULTURIST.

It is equal in size and productiveness to the New Rochelle, much superior in flavor, and ripens a few days earlier. I shall make it the leading sort in my own garden for family use, as all give it the decided preference.

W. A. FITCH, *Associate Ed. Am. Agriculturist.*

Much sweeter and decidedly superior to the New Rochelle.

EVERYBODY.

For the originals from which the above are brief extracts, prices, &c., address with stamp, E. WILLIAMS,
Oct. 12—w2tm1t. Montclair, N. J.

## GOODRICH
## Seedling Potatoes.

Last spring the subscriber sent out a limited quantity of four new Goodrich Seedling Potatoes, for the family of the lamented originator, and can now furnish to order a full assortment of these seedlings, of 20 named sorts, true to name.

The Garnet Chili, Cuzco, Coppermine and Pinkeye Rusty Coat, each $2 per bushel, or $5 per barrel.

The Andes, Black Diamond, Callao, Central City, Mountain June Pinkeye, New Hartford, New Kidney, Pale Blush Pinkeye, White Chili, Nos. 241 and 380, the last erroneously entered at the last State Fair as "Early Jones," each $1 per peck. The new sorts as follows:

EARLY GOODRICH, the "best early potato," $1 25 per peck, $4 per bushel, $10 per barrel.

CALICO, a delicate early winter sort, $1 per peck, $3 per bushel, $7.50 per barrel.

GLEASON, a late winter sort, $1.50 per peck, $5 per bushel, $12 per barrel.

HARISON, the most solid and best late keeping sort, $2 per peck, $6 per bushel, $15 per barrel.

A peck of each of the four new sorts $5; bushel, $16; barrel, $40. A barrel to hold two bushels and three pecks.

No extra charge for boxing or cartage. Full Descriptive Circulars sent on receipt of 3 cent stamp.

☞ A liberal discount made to Agents and Dealers.

Oct. 5—w5tm1t. D. S. HEFFRON, Utica, N. Y.

## CHESTER COUNTY WHITE AND
## Prince Albert Pigs

FOR SALE, not akin, best blood in the country, $18 per pair. Apply to R. L. PELL,
June 8—w&mtf. Pellham Farm, Ulster Co., N. Y.

## PRINCE ALBERT'S IMPROVED
## Suffolk Pigs for Sale.

Prince Albert's Improved Suffolk Pigs, in pairs not akin, and bred from stock imported by the subscriber, from the farm of the late Prince Albert adjoining Windsor Castle, England.

W. B. DINSMORE,
Oct. 12—w6t. Staatsburgh, Duchess Co., N. Y.

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**WM. M. BENDER, Proprietor.** | **GEORGE JACKSON, Superintendent.**

The Subscriber is prepared to furnish, Round, Sole and Horse Shoe Tile, over 13 inches in length, by the cargo, or in the smallest quantity on demand, at prices that he will defy any other parties to undersell him. He will warrant his tile hard burnt, and to fit close at the joints, and altogether superior to any made in the United States.

All tile delivered on board of cars or boat in this city free of charge. Price list sent on application.

Also DRAINING TILE MACHINES for sale of the latest improved patterns. For further particulars address as above
April 6—w&m.

## MOORE'S RURAL NEW-YORKER.

A new Quarter of this popular *Agricultural, Literary and Family Newspaper* commenced Oct. 7. Now is the time to subscribe. Send $3 for a year—or, if you wish to know more of it first, the 13 numbers of this quarter (Oct. to Jan.) will be sent, *on trial*, for only 50 cents. Try the RURAL, and see if it is not like a honeycomb, having sweets in every cell. Address

**D. D. T. MOORE, Rochester, N. Y.**

## THE PRACTICAL SHEPHERD.—

This is the latest and best of Dr. RANDALL'S works on Sheep Husbandry—the Standard Authority on the subject. It tells all about the Breeding, Management and Diseases of Sheep, and should be in the hands of every flock master on the American Continent. Over 20,000 copies already sold. One large 12mo. volume of 454 pages—printed, illustrated and bound in superior style. Sent postpaid on receipt of price—$2. Address. **D. D. T. MOORE,**
Oct. 19—w1t. **Rochester, N. Y.**

GARNET CHILI SEED POTATOES.—A few barrels choice may be had for $4 per barrel delivered at the railroad. Remit to and adress W. R. FIELD,
JAS. H. SPENCER, P. O. Box, 1951, New-York, or
Bedford, Westchester Co., N. Y. Oct. 12—w4t.

HARDY VINES.—A large stock of the best sorts, well grown, at the

**Lowest Possible Prices.**

The stock must be sold. For lowest prices, inquire for what is wanted. D. S. HEFFRON,
Oct. 12—w6t. Utica, N. Y.

TRUE DELAWARE GRAPEVINES—From the original vine. Also Iona, Israella, Adirondac, Allen's White Hybrid, Concord, Crevelling, Diana, Hartford Prolific, Roger's Hybrids, Rebecca, Anna, Maxatawney, and all other desirable varieties.

CURRANTS, RASPBERRIES and STRAWBERRIES of the improved kinds. Plants of best quality. Prices moderate. Send stamp for Descriptive Price List to
Sept. 28—w8tm1t. GEO. W. CAMPBELL, Delaware, Ohio.

GRAPEVINES.—Our Price List postpaid to all applicants. Address C. L. HOAG & CO.,
Sept. 7—w8t. Lockport, N. Y.

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*Office No. 258 South 3rd Street, Philadelphia, Penn.,*

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SEEDS and PLANTS, and Agent for the best ENGLISH, FRENCH and GERMAN GROWERS.

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## BOARDMAN & GRAY'S
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**Albany, N. Y.**

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# The Cultivator & Country Gentleman.

**Arrangements and Terms for 1866.**

In pursuance of a design long entertained and only awaiting a favorable time for consummation, the Monthly edition heretofore issued from this Office, will be consolidated at the close of 1865, with the Weekly, under the united title of the

## "CULTIVATOR & COUNTRY GENTLEMAN."

Since the establishment of the latter, in 1853, it has been constantly growing in favor, both with the former readers of THE CULTIVATOR, and with the Agricultural community at large; and the progress of events has shown, as was anticipated, that a weekly periodical would not only be well sustained, but would also by degrees take the place of the monthly, in the interest and preference of the public. The circulation of the one has already passed over largely to the other, and by consolidating the two, it is believed that progress in this direction will now be accelerated, very greatly to the mutual advantage of ourselves and of our readers.

Those who have so long extended a helping hand, with the approach of every beginning year, in sustaining the circulation of THE CULTIVATOR as a Monthly, may rest assured that little if any greater effort will be required to secure a similar number of subscribers for it in its new form as a Weekly. In this form, it will be continued in the same spirit and with the same energy that have heretofore characterized its management; the Variety of its Contents will be much increased; greater attention will be paid to the different Departments embraced in its design—to Horticulture, Stock-breeding, Domestic Economy, &c., while a condensed summary of the News and of the state of the Markets, together with some miscellaneous articles mainly of Rural interest, are also included. In fine, the aim will be to render THE CULTIVATOR & COUNTRY GENTLEMAN precisely such as to combine the greatest amount of information and entertainment which its price will admit, for the Farmer and Gardener, the country resident in his summer retreat, or the industrious villager with only a few acres under his control.

CHEAPNESS OF THE WEEKLY.—The weekly numbers of THE CULTIVATOR & COUNTRY GENTLEMAN are printed on a sheet of nearly the same dimensions as the present monthly issue, but in the form of a sixteen page quarto, instead of a thirty-two page octavo. In the year, *eight hundred and thirty-two pages* will thus be given, instead of 384 of about *half the size;* or more than four times the printed surface at about three times the price—$2.50 per year instead of 80 cents. By printer's measurement the reading matter obtained by a year's subscription will exceed that of most of the Four Dollar Magazines!

DEPARTMENTS EMBRACED.—Among the subjects to which the columns of THE CULTIVATOR & COUNTRY GENTLEMAN are devoted, the following are the most prominent, and more or less space is occupied by them in every volume, and in nearly every number:

1. PRACTICAL FIELD HUSBANDRY—all the Crops and Processes of Improved Farming.
2. DOMESTIC ANIMALS—Breeds, Diseases, Fattening and Management.
3. THE DAIRY—Butter and Cheese—the POULTRY YARD and the APIARY.
4. HORTICULTURE—Fruits and Fruit Trees; Landscape Gardening; Arboriculture.
5. KITCHEN AND FLOWER GARDENING—all Edible and Ornamental Plants.
6. PROGRESS of AGRICULTURE—Sales and Shows; New Implements and Inventions.
7. DOMESTIC ECONOMY—ENTOMOLOGY—RURAL ARCHITECTURE—BOTANY.
8. THE FIRESIDE—Natural History; Home Embellishment and Comfort; Miscellanies.
9. RECORD OF THE TIMES—State of the Crops; News at Home and Abroad.
10. FARM PRODUCE MARKETS—Albany, New-York and Boston Prices.

**Terms for 1866.**

Our rates of subscription for the "CULTIVATOR and COUNTRY GENTLEMAN" for 1866, are as follows; the order in all cases to be accompanied by the cash:

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| ONE COPY, one year, | **$2.50** |
| FOUR COPIES, one year, | **9.00** |
| EIGHT COPIES, one year, | **16.00** |
| FIFTEEN COPIES, *and one free to the sender of the List,* | **30.00** |

And any additional number of copies above eight or fifteen, at the rate of **$2** per year each.

*Clubbed with the Annual Register.—See Advertisement, p. 357.*

| | |
|---|---|
| ONE COPY, one year, | **$2.80** |
| FOUR COPIES, one year, | **10.00** |
| EIGHT COPIES, one year, | **17.60** |
| FIFTEEN COPIES, *and one of each free to the sender of the Club,* | **33.00** |

☞ In a Club of Eight or more subscribers, if so desired, those not wishing the ANNUAL REGISTER may remit **$2** each, and those wishing it **$2.20** each. Clubs may go to as many different Post Offices as necessary.

*Subscribers not Paying Strictly in Advance*, will in all cases be charged THREE DOLLARS per year. Subscriptions for less than one year will be taken at 25 cents per month.

*Subscribers in the British Provinces* remitting in the bills of *specie paying banks*, will be supplied, with no extra charge for postage to the American lines. If remitting in United States currency however, 25 cents should be added to the above rates, for each yearly subscriber.

☞ TO THE PRESENT SUBSCRIBERS OF THE CULTIVATOR.—*As an inducement to the circulation of the* COUNTRY GENTLEMAN *among our present readers, we will send it* FREE FOR THE REMAINDER OF THE YEAR *to any person indicating his intention to continue his subscription for the paper in its Weekly form for* 1866; and the remittance for the coming year may be made, in a club when formed or otherwise, on the terms above stated. And clubs made up for now 1866, will receive the paper weekly *from the date of paying the money*, to January 1st, 1867.

Under this offer, which at present cost of paper and labor, involves for us a very heavy outlay, we nevertheless hope to enroll on our lists for the New-Year the names of several thousands for free copies during November or December; these lists, moreover, will all be in working order when the New Volume opens, and the pressure and confusion incident to the 1st of January will much of it be avoided. And to those not prepared at once to promise their subscriptions for 1866, and thus become entitled to the free copies, as above, we shall be happy to send Sample Numbers without charge, both for their own examination and also for distribution among their friends and neighbors.

RESULT OF CONSOLIDATION.—It is believed that by the consolidation of THE CULTIVATOR with the COUNTRY GENTLEMAN its circulation will be rendered larger as a *Weekly*, than it was as a Monthly in 1852, when the plan of the latter was laid down—notwithstanding the very greatly increased competition of the present times,—thus successfully accomplishing our own hopes—laying the foundation for still more effective labors and more satisfactory results in the future,—increasing our means of usefulness to the reader,—and perpetuating the time-honored name of THE CULTIVATOR in a form still more popular, and more highly valued, than it has ever worn before.

LUTHER TUCKER & SON.

*Albany, N. Y., Nov.* 1, 1865.